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Navy health care readiness requirement model and programming costs

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NAVY HEALTH CARE READINESS REQUIREMENT MODEL AND PROGRAMMING COSTS

by

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This thesis examines the Total Health Care Support Readiness Requirement (THCSRR) model, a new tool which has been developed to estimate the level and composition of medical manpower readiness requirements for the Navy. A brief description of the events leading up to the creation of the model is presented to explain not only the impetus behind it but also the environment under which it was constructed. The process of preparing the Program Objectives Memoranda (POMs) is then described, with the primary focus on Navy medical manpower. The primary components, underlying principals and assumptions behind the model are explained in detail, followed by an assessment of the principal drivers of the model and tradeoff possibilities which may be used in future make-buy decisions for Navy Medicine. Finally, conclusions reached from the analytical research and implications for the future based on this model are addressed.

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by

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ABSTRACT

This thesis examines the Total Health Care Support Readiness Requirement (THCSRR) model, a new tool which has been developed to estimate the level and composition of medical manpower readiness requirements for the Navy. A brief description of the events leading up to the creation of the model is presented to explain not only the impetus behind it but also the environment under which it was constructed. The process of preparing the Program Objectives Memoranda (POMs) is then described, with the primary focus on Navy medical manpower. The primary components, underlying principals and assumptions behind the model are explained in detail, followed by an assessment of the principal drivers of the model and tradeoff possibilities which may be used in future make-buy decisions for Navy Medicine. Finally, conclusions reached from the analytical research and implications for the future based on this model are addressed.

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I. INTRODUCTION

A. BACKGROUND

The Department of Defense (DoD) maintains a medical establishment for two unique yet interwoven reasons. First, and perhaps foremost from a military standpoint, is the need to meet wartime demands for medical care and maintain the medical readiness of uniformed personnel in peacetime so they can mobilize in the event of hostilities. This is often referred to as the "wartime mission". The second function entails providing health care to 8.5 million beneficiaries, including retirees and their dependents, active duty dependents, and survivors. The law requires the DoD to provide this second mission, known as the "peacetime benefit"; however, the law also stipulates that this care is to be provided on a space available basis in military health care facilities.[1] It is important to note that these two missions both complement and conflict with one another and decisions concerning the wartime segment undoubtedly affect the peacetime portion.

This already complex relationship, combined with the ability to substitute civilians in the peacetime portion, distinguishes the medical community as unique among most other military communities. Decisions regarding trade-offs between active duty and civilian health care providers should include estimates of the expected benefits and costs to society and not those realized solely by the Federal Government.[2] These are vital considerations for financial and community managers

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[1]Title 10 U.S. Code Armed Forces, Chapter 55, April 1993.

[2]Office of Management and Budget, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, CIRCULAR NO. A-94, 29 October 1992, p. 5.

when sizing the force, whether that size is based on the wartime mission, peacetime benefit, or a combination thereof.

It is difficult to find a single accepted definition of manpower needed for "medical readiness," largely because of differing opinions on whether the fulfillment of the peacetime benefit should be considered when discussing readiness. The Assistant Secretary of Defense for Health Affairs and some of the services include operations in conjunction with beneficiary health care in the definition of medical readiness.[3] The Navy, on the other hand, includes only the wartime mission and daily operational support for Navy and Marine Corps platforms and units when defining manpower readiness requirements.

The process of determining the quantity and specialty mix of active duty medical personnel needed for readiness, regardless of how readiness is defined, has been a topic of repeated analysis over the years. Evaluations have traditionally been hampered by a lack of complete, reliable data on both future manpower readiness requirements and personnel currently available to meet medical commitments.[4] During the Cold War era, emphasis was placed less on determining minimum wartime medical personnel requirements than on military buildup. United States war plans at that time envisioned a global conflict similar in size to World War II. In this environment, the force structure was large and expected casualty rates were high. As a result, there were sufficient medical personnel on active duty to sustain the care of the beneficiary population at that time.

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[3]Assistant Secretary of Defense for Health Affairs, Medical Readiness Strategic Plan (Draft), August 1994, p. 1.

[4]U.S. General Accounting Office, Report to the Chairman, Armed Services Committee, House of Representatives, Medical Readiness: Progress in Stating Manpower Needs, April 1987, p. 18.

Today, the political and fiscal picture is much different. We face threats which require smaller forces sustaining much lower casualty rates than previously planned. The military in general is now facing a situation in which the peacetime benefit mission could exceed the wartime mission. These factors, coupled with increasingly tight fiscal constraints, have brought the issue of "rightsizing" the total force structure to the forefront of the bargaining table.

In 1991, Congress mandated a systematic review of the military medical care system required to support the Armed Forces during war or other conflict and any adjustments required to provide cost-effective health care in peacetime to covered beneficiaries.[5] This report, known as the "733 Study," is important for several reasons.

First, it highlights the fact that Congress is struggling with the idea of health care in general and in particular the DoD system. Many of their constituents are military health care beneficiaries who will be directly affected by major changes in the Medical Health Services System (MHSS). Secondly, this study represents the first comprehensive examination of this issue undertaken by the Department since the end of the Cold War.[6] Consequently, the results of the study have received much attention and scrutiny from all the services, including the Navy. Finally, the results of the wartime portion of the 733 Study themselves are significant in framing the issue of Navy medical readiness manpower requirements.

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[5]U.S. House of Representatives, National Defense Authorization Act for Fiscal Years 1992 and 1993, Section 733, November 1991.

[6]Lynn, William J., Director, Program Analysis and Evaluation, Office of the Secretary of Defense, Statement before the Subcommittee on Military Forces and Personnel, Committee on Armed Services, U.S. House of Representatives, April 1994.

Table 1.1 shows an abbreviated version of the results of the study compared with resources provided in the fiscal year 1999 defense program. The concurrent scenario was based on two major regional conflicts (MRC) in Southwest Asia and Korea as set forth by the Defense Planning Guidance and other national strategy documents. The augmented case included additional physicians for training, rotation base, and other support functions. Numbers represent all three services combined.

	Active-duty Physicians	Reserve Physicians	Total Physicians
FY99 Program	12,600	6,500	19,100
Concurrent Scenario (Base Case)	4,000	5,000	9,000
Concurrent Scenario (With Augment)	6,300	8,200	14,500
Percentage of FY99	33-50%	75-125%	50-75%

Table 1.1: Wartime Medical Requirements Comparison[7]

The 733 Study conjectured that only half of the active-duty physicians projected to be available in fiscal year 1999 would be required to meet wartime demands. Although the study went on to assess the peacetime benefit, it was the startling outcome of the wartime portion which further magnified the issue of sizing the military medical structure and prompted

[7] Ibid.

the Surgeon General of the Navy to task further Navy-specific studies.

The Center for Naval Analysis (CNA) was asked to define medical manpower requirements unique to the Navy which were not covered in the 733 Study. These included day-to-day operations on ships, overseas (OCONUS), with the Fleet Marine Force (FMF), and at isolated duty stations in the United States (ICONUS). Combining and refining both the wartime portion of the 733 Study and the CNA study became the task of the Surgeon General's Program Objective Memorandum (POM) Fiscal Year 1996 Medical Assessment Task Force (PMATF). The result was the Total Health Care Support Readiness Requirement (THCSRR) model, which represents a single tool to determine and project Navy Medicine's minimum active-duty manpower requirements. Once these requirements were roughly identified using the THCSRR, the task force created an allocation model which allows for distribution of these uniformed personnel to support the peacetime benefit.

B. OBJECTIVES

The primary purpose of this study is to provide a documented description and analysis of the components of the THCSRR model. In doing so, factors driving the size and cost of Navy personnel requirements for medical readiness will also be delineated. This assessment will better equip financial managers to deal with the increasingly complex issue of funding military medicine. In addition, it would not only serve as a baseline for a more thorough review of the Army and Air Force medical structures, but could prove beneficial to line communities as well.

C. RESEARCH QUESTIONS

What are the primary components, underlying principals and assumptions behind the Navy Total Health Care Support

Readiness Requirement model and how do they impact Program Objective Memorandum inputs?

What percentage of current Navy medical personnel is associated with readiness requirements and what percentage is linked to the peacetime benefit according to this model?

What are the resource and programming implications of changing the underlying assumptions of the model?

What trade-offs are possible using this readiness model as medical endstrength levels are decreased?

What area(s) of the model could be made more effective and what are the cost implications?

What are the implications of the model for the future size of the Department of the Navy medical establishment?

D. SCOPE

The scope of this research will be limited to unclassified material, therefore specific analysis of planning scenarios defining force levels, force arrival times and their effect on the medical model will be excluded. Certain sections of the wartime portion of the 733 Study are also classified and will not be discussed. Due to the recent nature of the events associated with this study, many of the sources used in the research effort were in draft form at the time this document was written. Final versions of these sources may be altered somewhat; however, continuous follow-up research was conducted to ensure changes did not drastically affect this study. Lastly, it is important to note that this study looks at the Navy medical community from a line officer's perspective. Although some of the concepts require a working knowledge of Navy medicine, this analysis may be able to provide some additional or unique insight into the arena of medical readiness.

E. METHODOLOGY

Interviews were conducted with personnel from the Chief of Naval Operations, Medical Resources, Plans and Policy Division (N931C2C), Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)), Director of Naval Medicine/Surgeon General of the Navy, Department of the Navy's Bureau of Medicine (BUMED), Office of the Secretary of Defense for Program Analysis and Evaluation (OSD(PA&E)), Center for Naval Analysis (CNA), Department of the Navy's Bureau of Personnel (BUPERS), and Office of the Assistant Secretary of Defense (Comptroller). Instructions and regulations governing the Programming process as well as other sources relating to general model analysis, medical readiness, and manpower issues were reviewed.

F. ORGANIZATION OF STUDY

Chapter II will both describe and analyze the process of preparing the Program Objective Memorandum to provide resources for Navy medical endstrength levels. This will include an examination of how programming for medical manpower differs from programming for other elements of the Medical Health Services System (MHSS).

Chapter III will provide a detailed breakdown of the major components of the THCSRR model. Specific emphasis will be placed on the underlying principles and assumptions which formed the basis for model development and the rationale behind them.

Chapter IV will build on the conceptual foundation laid out in the previous chapter to focus on identifying the primary drivers of the model. This will encompass both fiscal and endstrength drivers. An evaluation of the use of cost-benefit analysis which takes into account these drivers and associated trade-off possibilities will also be conducted.

Finally, Chapter V will discuss conclusions reached from this study, including any recommendations and observations concerning elements of the model itself. A brief conclusion will highlight viability of using this model in the future and the resulting Navy and service-wide implications for medical force sizing and readiness issues.

II. PROGRAMMING FOR NAVY MEDICINE

A. PLANNING, PROGRAMMING AND BUDGETING SYSTEM INTRODUCTION

The Planning, Programming, and Budgeting System (PPBS) is a DoD management tool used to coordinate decision-making efforts for the proper allocation of defense resources. The overall goal of this process is to present Congress with valid budgetary requirements to support the missions of operational commanders within certain fiscal constraints. From a readiness standpoint, it is particularly important to understand the PPBS. It is in this arena where critical decisions are made regarding the proper size and type of forces, equipment, and infrastructure in the DoD. A model such as Navy Medicine's THCSRR will have to operate successfully within the political and organizational realm of this management system to compete for the fiscal resources necessary to maintain readiness.

The Planning, Programming, and Budgeting phases all operate on a nearly continuous basis and, although they occur simultaneously and often overlap, each focuses on different fiscal years. For example, the following PPBS processes take place concurrently:

- Budget execution for FY94
- Congressional debate on the budget for FY95
- Budget revisions for FY 1996-1997
- Program Objective Memorandum (POM) development for FY 1998-2003

This chapter will consist of an explanation of programming based on a snapshot of the PPBS. However, before discussing the Programming phase as it relates to Navy medical readiness manpower requirements, it is important to outline

certain aspects of the system as a whole and highlight the relationship among the three components.

B. PLANNING

Planning for the DoD involves identifying national interests, defining national military strategies, and laying the groundwork for a future force structure which will successfully execute those strategies.[8] As this phase is designed to focus on the long term, it encompasses a period of two to eight years in the future. Milestones in the Planning phase include the President's National Security Strategy (NSS) and the Chairman of the Joint Chiefs of Staff's National Military Strategy Document (NMSD). Together these delineate not only political and economic strategies for the next decade but also identify national military objectives and define force requirements at a macro level.[9]

Using inputs from the NSS, NMSD, the Under Secretary of Defense for Policy develops the Defense Planning Guidance (DPG). Perhaps the most critical document arising from this portion of the PPBS, the DPG serves as the foundation upon which much of the programming phase is based. Construction of the DPG is aided by members of the Defense Planning and Resources Board (DPRB). This committee has significant responsibilities in all three phases of the PPBS, including resolving major program and budget issues and directing reviews of high priority programs.

Membership of the DPRB includes the following:

- Deputy Secretary of Defense

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[8]Naval Postgraduate School, Practical Comptrollership Manual, March 1994, p. C-13.

[9]U.S. Department of the Navy Program Information Center, PPBS Training Course, July 1994, pp. 31-32.

- Service Secretaries
- Under Secretary of Defense for Policy
- Under Secretary of Defense for Acquisition
- Chairman of the Joint Chiefs of Staff
- Assistant Secretary of Defense for Program Analysis and Evaluation
- DoD Comptroller
- Service Chiefs, Commanders-in-Chief (CINCs), other leadership invited as appropriate
- Executive Secretary: Special Assistant to the Deputy Secretary of Defense[10]

Although the medical community does not directly participate in this forum, membership includes Navy leadership with medical assets under their responsibility. Based on all these inputs, the DPG provides the services with both force and fiscal guidance necessary to construct their program proposals which ultimately lead to budgets.

Fiscal guidance comes in the form of Total Obligational Authority (TOA) for the next six years. TOA is defined as the total amount of funds available for programming in a given year, regardless of the year the funds are appropriated, obligated or expended.[11] This guidance provides the overall fiscal limits within which the services must build programs; however, it does not limit funding for specific programs.

Force guidance comes from representations of potential combat operations, known as Illustrative Planning Scenarios, which are issued in Annex A of the DPG. These scenarios define the nature of potential conflicts, including force

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[10]PPBS Training Course, op. cit., p.37.

[11]Naval Postgraduate School, Practical Comptrollership Manual, Glossary, March 1994, p. 23.

levels and arrival times. Combat intensities and durations are generated by wargames performed and interpreted by the Joint Staff.[12] All of these factors will not only affect decisions regarding combat forces but also impact medical forces needed for wartime as well. Different combat intensities will naturally result in varying requirements for a certain quantity and skills mix of medical support.

The DPG undergoes one final stage of development before it is signed by the Secretary of Defense (SECDEF). The first five DPRB members listed above also comprise the Executive Committee (EXCOM) of the DoD. This group is designed to be the Secretary's private sounding board, providing their views and recommendations on the draft DPG. After considering the advice of the DPRB, EXCOM, and CINCs, the Secretary of Defense signs out the Defense Planning Guidance and with it brings the Planning phase to a close.

C. PROGRAMMING

While planning involves a long term outlook, programming concentrates more on a mid-range perspective by translating the DPG into a six year financial plan of packages or programs. This process represents a concentrated effort to link planning with budgeting through consensus building and the reallocation of resources. Programming also establishes a single channel for major decisions on defense programs and allows for continuous evaluation and assessment of those programs.

Before examining the process itself, it may be beneficial to explain the key documents resulting from programming and identify the roles of instrumental players both in general and specifically for Navy Medicine. Organizing the discussion in

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[12]U.S. Department of Defense, Office of Program Analysis and Evaluation, The Economics of Sizing the Military Medical Establishment (Draft), March 1994, p. 2.

this manner allows terms and official titles to take on extra meaning when the actual process is outlined.

1. Key Programming Documents

The two primary outputs of the Programming phase are the Program Objectives Memorandum (POM) and the Future Years Defense Plan (FYDP). The POM represents the Secretary of the Navy's recommendation to the SECDEF for the application of Navy resources for a six year timeframe.[13] Using department guidance and policy parameters specified by the DPG, it contains objectives, planned activities and cost of each program. It is important to note that appropriation controls are not in effect at the program level, allowing the Navy to make trade-offs between programs within the overall TOA constraints to create a more balanced program. POMs take their names from the first of the six years of the program, hence POM96 would include fiscal years 1996 through 2001. The first two years of a POM receive the most attention because they form the basis for the next budget submission.

The FYDP is a publication of the decisions on the DoD's program which have been approved by the Secretary of Defense. It displays manpower, forces, costs, procurement and construction for approved programs. Costs are delineated for the prior year, current year, and the next six years. Force levels such as ship or aircraft inventories are displayed for the same eight year period plus three additional years.

The FYDP is categorized in two ways for two distinct audiences. For internal use, it is organized in terms of eleven Major Force Programs. Examples include General Purpose Forces (Program 2), Research and Development (Program 6), and Special Operations Forces (Program 11). Navy Medicine is included in Program 8, entitled Training, Medical and Other General Personnel Activities. Within Program 8, Navy Medicine

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[13]Practical Comptrollership Manual, op. cit., p. C-15.

is divided into various subprograms. Examples include medical in support of the Marine Corps (Program 9), with construction forces (Program 7), in Naval aviation (Program 5) and medical Selected Reserves for backfill positions (Program 32).

For congressional review, the FYDP is divided into appropriations. Navy Medicine is primarily comprised of appropriations for Operation and Maintenance, Military Personnel, Reserve Personnel, and Research and Development. Medical support for the Marine Corps is performed by Navy personnel, therefore the Military Personnel Marine Corps (MPMC) appropriation is not used in programming for Navy Medicine.

2. Programming Roles and Responsibilities

A large part of understanding the concept of programming lies in determining exactly who is responsible for different aspects of the process. Overall management of the programming phase for the Navy is the job of two offices under the Deputy Chief of Naval Operations for Resources, Warfare Requirements, and Assessments (N8). The Programming Division (N80) initiates guidance and procedures, including a schedule of completion dates and milestones for the process. This office is also responsible for final pricing and adjustments after program approval. The Assessment Division (N81) is more involved in the early stages of programming, conducting War Games as well as several reviews to make trade-offs between programs and ensure that a complete Navy investment strategy is attained. Both of these divisions attempt to optimize compliance with SECDEF, SECNAV, and CNO guidance and help keep the programming process in motion.[14]

The primary customers include the CINCs and Major Claimants. For Navy Medicine, CINCs of both the Pacific and Atlantic Fleets would be involved in programming for items

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[14]PPBS Training Course, op. cit., p. 44.

such as hospital ships. The Major Claimant for Navy Medicine is the Bureau of Medicine (BUMED); other claimants include Commander, Naval Reserve Forces, and Naval Supply Systems Command (NAVSUP) for the Fleet Hospital program. Claimants provide field inputs to Resource Sponsors for inclusion in the programming process. Consistent customer input is important in that it provides the expertise and day-to-day knowledge of customer needs and utilizes their ability to track precise historical execution. Ultimately, these are the organizations which must take the programmed resources and use them to meet their mission.

Each Resource Sponsor is responsible for a distinct collection of programs which, when combined with those of other Resource Sponsors, form Navy TOA. The Resource Sponsor for Navy Medicine is the Surgeon General of the Navy (N093), although Navy medical personnel in support of the Marine Corps are programmed by the Office of the Director for Air Warfare (N88) on the CNO staff.[15] Navy Resource Sponsors are delineated either by platform (e.g., submarine, surface, or aviation) or consist of separate support areas (e.g., medicine). The resources under their jurisdiction may support a number of programs in different mission areas.

The job of a Resource Sponsor is to combine inputs from customers with programming guidance, develop an understanding of the issues, and articulate them in the programming arena. Most importantly, they determine how to effectively reconcile the claimant's multiple requirements with the amount of resources available.[16]

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[15]Internet interview with Lieutenant T.H. Weber, MSC, USN, Office of the Surgeon General of the Navy, 11 September 1994.

[16]Internet interview with Lieutenant Commander S. Foster, MSC, USN, Office of the Surgeon General of the Navy, 12 August 1994.

Assessment Sponsors serve to check the programs developed by Resource Sponsors. They provide a broad perspective which includes areas of responsibility for several Resource Sponsors to ensure standardization when programming for common functions. The Deputy Chief of Naval Operations for Manpower and Personnel (N1) and Deputy Chief of Naval Operations for Logistics (N4) are examples of Assessment Sponsors for Navy Medicine.

The MHSS has recently undergone substantial structural changes which have had a major impact on medical participants in the PPBS. Traditionally, the MHSS has operated as four independent organizations: one for each of the three services and a fourth to manage the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The service organizations have been managed by the military departments and provided technical administration by the service Surgeons General, while the Assistant Secretary of Defense for Health Affairs (ASD(HA)) managed CHAMPUS.[17]

In an October 1, 1991 memorandum, the Deputy Secretary of Defense directed the creation of a unified medical program for medical activities within the DoD. This document, which later formed the basis for Program Budget Decision 742, placed medical personnel, facilities, programs, funding, and other resources within the DoD under the authority and direction of ASD(HA). It also consolidated the three military department medical budgets and programming responsibilities into a unified Defense Health Program (DHP) appropriation under the jurisdiction of ASD(HA). The services, and corresponding Resource Sponsors, must now coordinate their efforts with

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[17]Lanier, Jack O., Dr. P.H., FACHE, and Colonel Boone, Charles, USAF, Ph.D., FACHE, "Restructuring Military Health Care: The Winds of Change Blow Stronger," Hospital and Health Services Administration, v. 38:1, Spring 1993, p. 123.

ASD(HA) to justify their programs and compete for scarce resources within their own community. More specific information on the DHP and interaction between the services and ASD(HA) will be discussed in a subsequent section of this chapter.

3. Three Phases of the Programming Process

The Programming portion of the PPBS is operated on a two-year cycle. Odd fiscal years are termed "non-POM" years because the main emphasis is on assessing and refining the Navy program. During even fiscal years, programs are developed, delivered, and reviewed. Programming consists of three phases: Program Assessment, POM Development, and POM Delivery/Review. The following subsections address each phase separately.

a. Program Assessment

The purpose of the Program Assessment phase is to appraise mission and support programs and evaluate the current state of the Navy. The issuance of the first POM Serial by N80 signifies the beginning of the Programming phase. POM serials are a series of consecutively numbered memoranda distributed throughout the Programming cycle. They are used as a medium to promulgate areas of responsibility, direct those involved in the programming process, and outline changes as they occur. Serial Number One traditionally delineates goals and objectives, outlines an initial Plan of Action and Milestones (POA&M), and provides a discussion of the philosophy behind actions the Navy plans to take on a broad level. As the Resource Sponsor for Navy Medicine, N093 uses these documents to keep track of the most current situation in the programming arena.

Shortly after issuance of the first POM Serial, CINC Maritime Concerns are submitted as the initial input into the Assessment phase. Issues addressed are often requested specifically by the CNO; however, CINCs draw on operational

experience to develop their top five maritime concerns. Emphasis is placed on changes to threats since the last program review and an assessment of the ability of forces to meet those threats.

While the Navy programmers are compiling information for the forthcoming POM as part of Program Assessment, the Office of the Navy Comptroller (NAVCOMPT) is preparing for an Apportionment Review as part of the Budget cycle. Apportionment Reviews focus on making recommendations for reallocation of funds between the fiscal year currently being executed and the next fiscal year. As an example, the FY94 Apportionment Review would include FY94 and FY95. In order to accomplish this, input from programmers on the second year of the President's budget is requested. This input comes in the form of Sponsor Change Proposals (SCPs) drafted by Resource Sponsors. During FY94, N093 would have an opportunity to recommend any reprogramming in the proposed budget for FY95. This process is called Program Review and, although intertwined with budgeting, is often considered as part of the Program Assessment phase.

At this stage of assessing Navy programs, field input is provided by Major Claimants. This includes fleet commanders, systems commands and others such as BUMED. Each claimant is allowed to submit up to 25 prioritized issues, including program or financial offsets. These inputs are designed to focus on issues which are either beyond the capability of the claimant to resolve or will have a significant effect on the total Navy program.[18] Inputs are submitted to N80 who then distributes them to appropriate Resource Sponsors. The top five issues must be addressed by the Resource Sponsor.

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[18]Practical Comptrollership Manual, op. cit., p. 18.

In addition to this avenue, claimants and component commanders may also utilize POM Issue Papers to provide Resource Sponsors with information on their concerns and needs. These may come in the form of proposed changes or priority lists; however, recommendations for resource reallocation or identification of realized cost savings must be provided.

All inputs to date are considered when conducting Joint Mission Assessments, which are comprised of Joint Mission Area (JMA) and Support Area (SA) Assessments. Designed to provide a joint perspective, analysis extends across platforms, Resource Sponsors and services. JMA and SA Assessments have replaced the "Warfare Area" and "Pillar" concepts as building blocks for the Navy database. The following is a list of the seven JMAs and the organizations responsible for their construction:

- Joint Strike - N88
- Joint Littoral Warfare - N85/N86
- Joint Surveillance - N87/N88
- Joint SEW/Intelligence - N6
- Joint Deterrence - N87
- Strategic Sealift/Protection - N86
- Forward Presence - N83/N51

The three SAs and the organizations who prepare them are provided below:

- Readiness, Support and Infrastructure - N81
- Manpower and Personnel - N1

- Shore Training - N7[19]

Forward Presence and Shore Training represent assessment areas which have been added within the past year. In addition, a Special Programs Assessment, headed by N89, has been included as part of this process. Assessment of the Navy medical mission traditionally falls within the Readiness, Support and Infrastructure SA. As can be seen from the list above, multi-sponsor participation is key to ensuring fair assessment of joint capabilities and requirements.

The War Games portion of the Assessments phase is a new decision-making tool designed to help assess capabilities against Defense Planning Guidance scenarios and strategic concepts. Personnel from the Office of the Chief of Naval Operations, Marine Corps Headquarters, and Fleet Marine Force (FMF) evaluate JMA and SA priorities and requirements. Efforts are geared toward achieving program balance and determining trade-offs deemed necessary between programs. Actual wargames are conducted by N81.

The next step in the Program Assessments phase involves drafting Baseline Assessment Memoranda (BAMs). These contain appraisals of the total costs and resources needed to achieve or maintain some stated level of capability. These serve as benchmarks supporting Resource Sponsors later during the Program Development phase. N80 tasks certain Assessment Sponsors with developing BAMs for specific areas or topics.

Representative BAM issues and associated sponsors for POM-96 were Ship Inactivation (N4), Spares (N4), Base Operations (N4), Family Housing (N4), Training (N7), and Manpower and Personnel (N1). Although none of these included Navy medical issues, Navy Medicine conducted its own baseline

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[19]PPBS Training Course, op. cit., p. 56.

assessment for manpower requirements. This came in the form of the THCSRR model.[20]

Operational CINCs are provided a means to submit prioritized issues through Integrated Priority Lists (IPLs). Unlike claimants, the CINCs are not limited to a specific number of issues, nor are they required to identify program offsets. Resource Sponsors must also identify action taken on each issue in a CINCs' Annex to the POM. Typical issues might center around flying and steaming hours or specific quality of life programs. IPLs specifically relating to medical (called MIPLs) are submitted by the CINCs to the Joint Chiefs of Staff (JCS). The JCS in turn divide these by service responsibility and then send them to the respective services for action (e.g., N093 for the Navy). The package of MIPLs is sent in its entirety to ASD(HA). Recent MIPL issues concerning Navy Medicine involved the inclusion of hospital ships in fleet exercises.

The Investment Balance Review (IBR), conducted by N81, integrates all the various inputs to develop a composite picture of the Navy investment strategy to date. The IBR serves as a continuous review process of the JMAs and SAs to determine the Navy's success in filling its roles and missions.

The CNO reorganization of FY93 introduced the Resources and Requirements Review Board (R^3B) to the Programming cycle. With N8 as its chair, this board reviews IBR proposals and makes recommendations which will eventually guide detailed work by Resource Sponsors. This final review also represents the culmination of DoD program assessment efforts. Figure 2.1 depicts the Program Assessment phase in

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[20]Internet interview with Lieutenant Commander S. Foster, op. cit.

its entirety, including Navy medical-specific information where appropriate.

b. Program Development

Before Resource Sponsors are able to begin developing their programs, additional policy and fiscal guidance is supplied by several sources. The Defense Planning Guidance outlined earlier in the chapter is promulgated at this time. In addition, N8 publishes guidance based on specific direction from the JMA and SA Assessments and the IBR. This comes in the form of the Department of the Navy Consolidated Planning and Programming Guidance (DNCPPG). Formats and guidelines for reporting proposals are laid out by the Assistant Secretary of Defense for Program Analysis and Evaluation (ASD(PA&E)). Members of this office also become key players in the POM Delivery/Review phase.

Supplemental information specific to medical programs comes from the Medical Program Guidance (MPG) which is the province of ASD(HA). Based on these medical guidelines, Navy Medicine may be required to stop or start certain programs, increase readiness training, or show evidence of using civilian-based technology. Some requirements would be allowed to exceed historical program levels, while others would have to be included in the base TOA and would thus require offsets by other programs.[21]

Fiscal guidance for POM development also comes in many tiers. SECDEF initially distributes shares of the expected resources to each military department which form TOA controls for each year of the FYDP. It is then the task of the Secretary of the Navy to determine what portion will be allocated to the Navy and what portion will go toward Marine Corps programs. This process is known as establishing the "blue/green split". The Chief of Naval Operations (N80) then

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[21] Ibid.

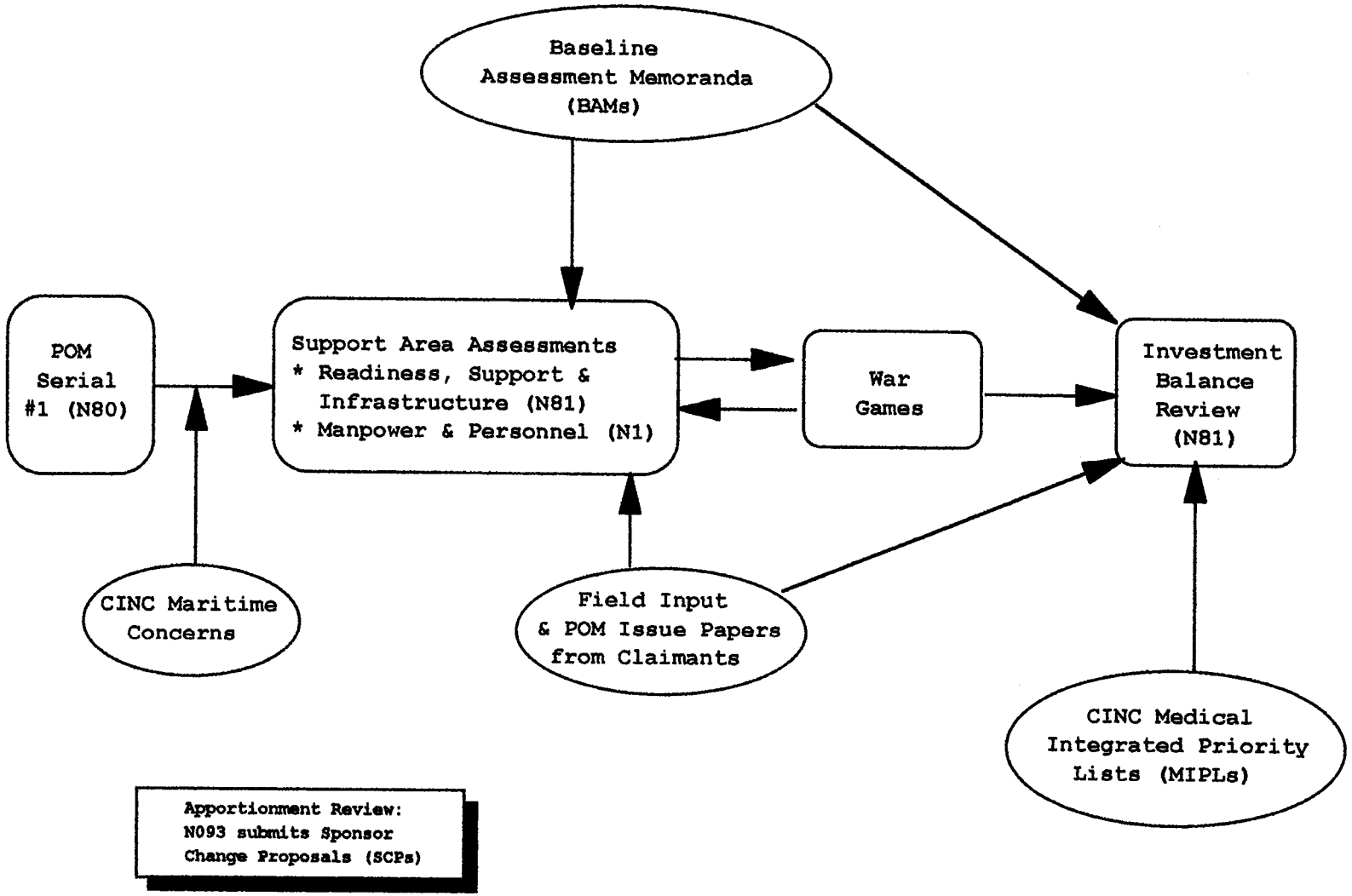

Figure 2.1: Program Assessment Phase

allocates the Navy's share to the different Resource Sponsors based on BAMs, results of the JMA and SA Assessments, and historical levels of program funding and execution. Using this methodology, division of resources is no longer the result of a mere percentage split; rather, it is the result of informed decisions made in the Program Assessments phase.

After fiscal and program guidance is distributed, Resource Sponsors begin formulating Sponsor Program Proposals (SPPs). Usually developed in the form of a series of slide presentations, these initial proposals represent the foundation of the Navy POM and are based on the most current guidance and information on program changes. SPPs also must address priories outlined by CINC IPLs, component commanders, claimant Issue Papers, and Assessment Sponsors. While drafting SPPs and as changes are made throughout the process, Resource Sponsors also continually update the FYDP.

Upon completion, SPPs are presented to N80 and several staff offices serving the CNO under the purview of the Program Development Review Committee (PDRC). This body acts as an initial sounding board for Resource Sponsors. Based on recommendations made by the PDRC, Resource Sponsors prepare Sponsor Program Proposal Documents (SPPDs) which are official documentation of program proposals and changes that aid customers in ensuring that their concerns and priorities are being addressed in the Navy POM. Also initiated by Resource Sponsors are Post-SPP Assessments. These are evaluations of programs as outlined in the SPPs to include degree of compliance with guidance, consistency, and program balance.[22]

The final process involved in the Program Development phase is OPNAV Internal Review, often known as "end game review". This consists of three primary stages of review by the Navy and Marine Corps: R^3B, Navy Staff

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[22]PPBS Training Course, op. cit., pp. 64-67.

Executive Steering Committee (ESC), and the Department of the Navy Program Strategy Board (DPSB). The R^3B reviews JMA and SA Assessments as well as SPPs, making adjustments as necessary. The CNO, Vice CNO, and Vice Admirals form the ESC to provide decisions on broad CNO policy issues.

At this point, after incorporating ESC adjustments, SPPs are collectively known as the Tentative POM (or T-POM). Finally, the T-POM is reviewed by members of the DPSB which includes the SECNAV, Under Secretary of the Navy, CNO, CMC, and the Assistant Secretaries of the Navy. Particular emphasis is placed on responding to CINC IPLs and final program rebalancing is done to meet the DPG and fiscal controls.

Based on results of the three-tiered Internal Review process, N80 conducts a final balancing of the POM during which appropriation "lock-up" takes place and POM documentation is prepared.[23] This simply means that the database in which all resources are tracked is closed to preclude further changes. At this point, both the Navy's Internal Review process and the Program Development phase are complete. Figure 2.2 provides an overview of the Program Development phase for Navy Medicine.

c. POM Delivery/Review

During this phase of the Programming process, both the updated FYDP and POM for all the services are submitted to OSD. It is the responsibility of ASD(PA&E), together with the Office of the Joint Chiefs of Staff and the CINCs, to collect all the services' POMs and develop questions, issues, and analysis of estimates and alternatives. If ASD(PA&E) or the CINCs do not concur with a service's POM, issues are developed for review and evaluation and are included in Issue Books.

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[23]Practical Comptrollership Manual, op. cit., p. C-23.

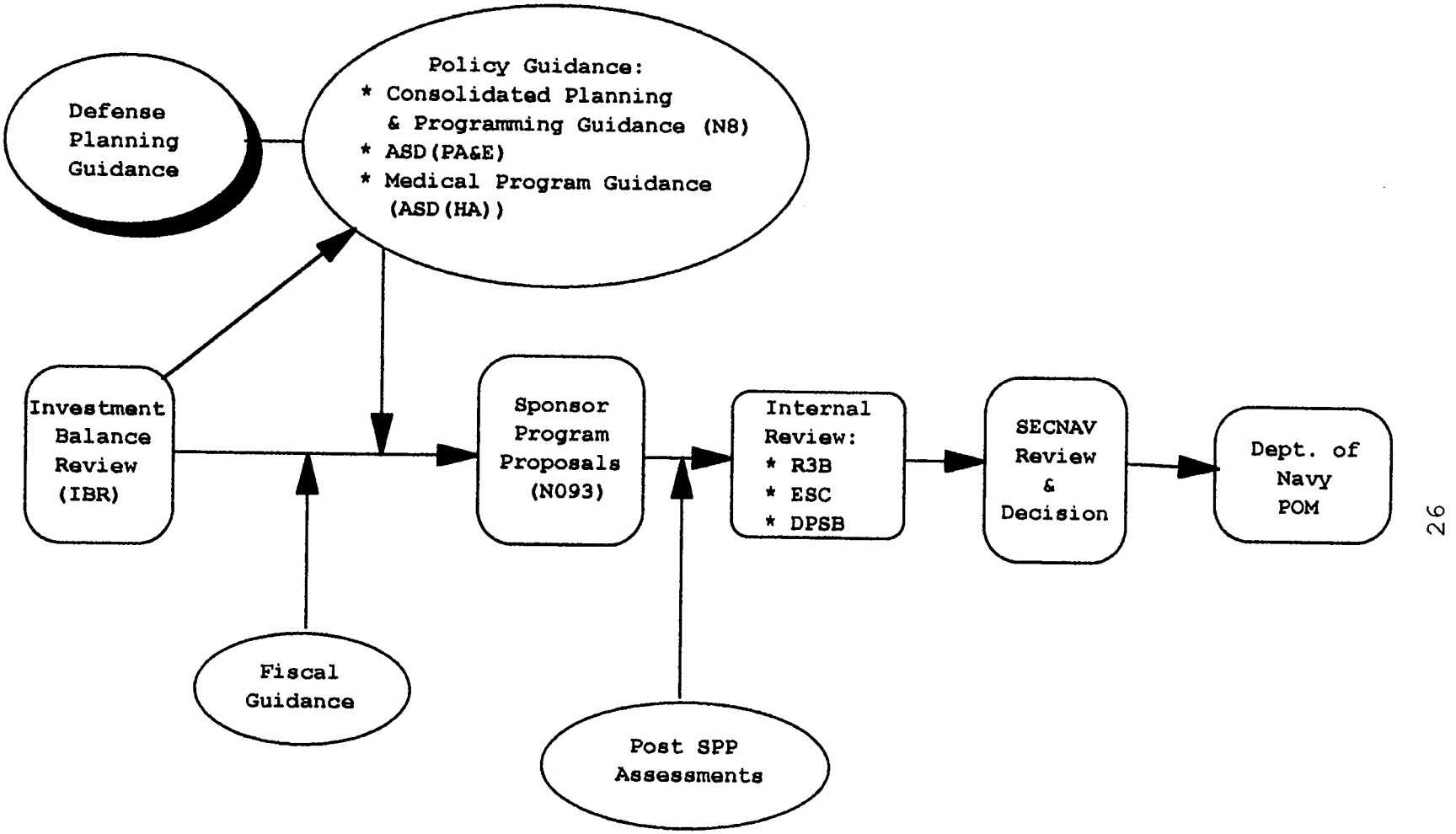

Figure 2.2: Program Development Phase

Issues are grouped into one of the following eight categories:

- Policy and Risk Assessment
- Nuclear Forces
- Conventional Forces
- Modernization and Investment
- Readiness and Other Logistics
- Manpower
- Intelligence
- Management Initiatives[24]

Recent health care issues under the Manpower category have centered around the size of the active duty medical departments in each of the services. Current interest in topics such as copayments and deductibles may fall under the realm of Policy or Management Initiatives.[25] Resource Sponsors are given the opportunity to develop reclamas, or appeals, through which an issue may be resubmitted for further consideration. The Navy also establishes Program Review Groups with flexible memberships tailored to issues currently under debate. Medical membership would most likely include the ASD(HA), Bureau of Medicine and Surgery personnel, and other leadership, depending on the issues involved.

Staff members from the Office of ASD(PA&E) brief the Issue Books in a formal presentation to the Defense Planning and Resources Board. Briefings for a particular issue would

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[24]Ibid., p. C-24.

[25]Internet interview with Lieutenant Commander S. Foster, op. cit.

include OSD's position on the issue (called a mark), CINC input, and the Resource Sponsor reclama.

After considering recommendations from the DPRB on each Issue Book, the SECDEF forwards his decisions to all the services and defense agencies via Program Decision Memoranda (PDM). The PDMs not only signify the conclusion of the Programming phase, they also provide further guidance for those involved in translating the first two years of the POM into a biannual budget proposal during the Budget phase. Figure 2.3 depicts the POM Delivery/Review phase of programming as it relates to Navy Medicine.

D. PROCEDURES/ISSUES SPECIFIC TO THE MEDICAL COMMUNITY

The processes outlined in the previous sections are standard methods applicable to all communities in the Naval service. These serve as a template upon which additional requirements and variations are applied for the health care community. As stated in Chapter I, the complex relationship between its wartime mission and peacetime benefit role distinguishes the medical community as unique. In addition, health care issues in general are of extreme interest to both members of Congress and their constituents. This section will outline some of the principal differences encountered when allocating resources for the MHSS and explain their significance.

One of the most basic differences stems from the existence of the Defense Health Program (DHP) appropriation and a unified medical POM. In addition to inputs from the three services, there are also component field activities under the DHP. These include the Defense Medical Program Activity (DMPA), Uniformed Services University of the Health Sciences (USUHS), and the Office of Civilian Health and

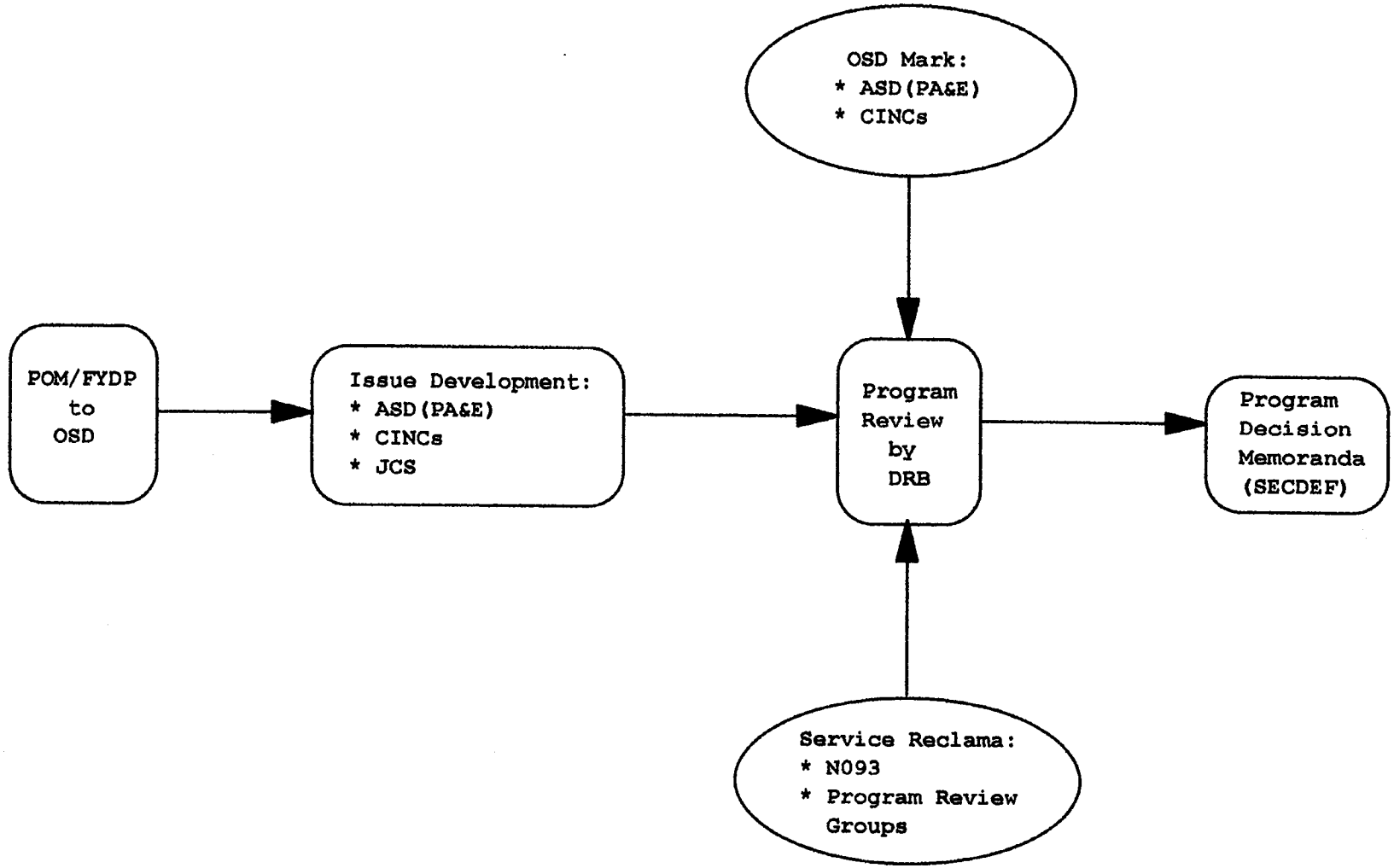

Figure 2.3: POM Delivery/Review Phase

Medical Program of the Uniformed Services (OCHAMPUS).[26] The DHP includes funds for Operation and Maintenance (O&M), Military Personnel, Other Procurement, and Military Construction (MILCON) for projects directly linked to medical facilities.

Exceptions include Navy medical base operations and construction for non-medical facilities such as Bachelor Enlisted Quarters for hospital staff. These are funded in the individual services' POMs. Funding for reserve and civilian personnel, combat support medical units/activities, and management headquarters not considered Program 8 (Medical) are also not included in either the consolidated medical budget or programming documents.[27] In part as a result of these deviations, Resource Sponsors programming for medical actually submit two POMs. One is provided to the Department of the Navy and one is submitted to ASD(HA). When combined, these POMs reflect the total resources programmed for Navy Medicine.

The most significant difference between allocating resources for the MHSS and programming for other military communities involves the issue of active duty personnel. Funds for this purpose are included in the consolidated ASD(HA) medical POM; however, they are transferred to the military departments for budget execution. This means that during the year of execution, the DoD Comptroller moves funds from ASD(HA) to the Department of the Navy based on the medical endstrength programmed by N093 for Navy Medicine.[28]

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[26]Memorandum from Assistant Secretary of Defense for Health Affairs, Subject: FY96-01 DHP Program Objective Memorandum Preparation Instructions, 2 March 1994.

[27]Kearns, P., Colonel, and Norris, J., Defense Health Program Budget Detail, Trends, and Issues, 7 April 1993, p. 1.

[28]Internet interview with Lieutenant Commander S. Foster, op. cit.

This relationship is illustrated by the following guidance, promulgated in 1993:

> The ASD(HA) POM will include military manpower levels and funds. The Military Department budgets will display the military manpower levels and funds as specified in the ASD(HA) POM. The Military Department budgets will, therefore, be above fiscal guidance by exactly these amounts, while the ASD(HA) budget will be below fiscal guidance by the levels and funds for military manpower specified in their POM.[29]

Although the Navy is "reimbursed" by ASD(HA) fiscally for medical manpower, these active duty personnel are still included as part of the Navy endstrength topline numbers. This is an important concept to understand as it has certain ramifications in an environment marked by "rightsizing". If the Navy is required to reduce its number of active duty personnel, medical personnel would be included in attaining those targets. In the past, the Navy has been reluctant to cut medical personnel, therefore targets have been met primarily by trimming down the line community. However, the Navy is currently beginning to force the medical community to "share the pain" of downsizing efforts by taking a percentage of personnel reductions. These interactions result in a system wherein ASD(HA) holds much of the fiscal responsibility for health care yet decisions made by the services ultimately impact their medical communities.

An additional element which must be considered when programming for medical endstrength is specific congressional action defining minimum medical endstrength numbers under

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[29]Memorandum from Maroni, Alice C., Principal Deputy Comptroller, and Lynn, William J., Director, Assistant Secretary of Defense for Program Analysis and Evaluation, Subject: Programming and Budgeting for Military Pay and Manpower in the FY 1995-1999 Program/Budget Review Related to Special Operations and Medical Programs, 25 August 1993.

certain conditions. In 1990 Congress prohibited reductions in military and civilian health care personnel below the numbers of those serving on September 30, 1989.[30] Limitations specific to the Navy are outlined in Section 718 of the National Defense Authorization Act for FY92 and FY93 which establishes the minimum number of Navy officers serving on active duty in health profession specialties at 12,510.

These acts allow cuts to be made only if ASD(HA) certifies to Congress that the number of personnel being reduced is excess to current and projected needs of the services and that the reduction will not increase CHAMPUS costs.[31] In order to certify that CHAMPUS costs would not increase, Health Affairs uses a model consisting of several equations linking changes in population, inpatient and outpatient utilization, and medical manpower levels to changes in CHAMPUS workload. Table 2.1 provides medical endstrength information contained in the draft version of ASD(HA) certification for FY95.

As can be seen by comparing numbers for the different services, Navy medical manpower cuts have been somewhat smaller than those of the other two services. This certification process has essentially created a "floating minimum" or floor on medical endstrength levels. The level of endstrength certified for one year becomes the minimum level for the next year. If certification is submitted the following year due to further cuts, the floor is lowered again.

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[30]U.S. House of Representatives, National Defense Authorization Act for Fiscal Year 1991, Section 711, November 1990.

[31]Department of Defense, FY95 Medical Manpower Annex Manpower Requirements Report, May 1994, p. 2.

	Baseline FY89	Certif. FY95	Proj. FY20
USN Officer	11,555	12,130	11,711
USN Enlisted	30,598	29,944	28,785
USN Civilian	11,435	13,170	12,858
USA Officer	18,185	15,842	14,793
USA Enlisted	48,238	35,122	33,020
USA Civilian	30,032	30,214	29,804
AF Officer	14,711	14,131	14,118
AF Enlisted	29,166	27,535	27,526
AF Civilian	8,894	8,118	8,127

Table 2.1: DoD Health Care Endstrength Certification[32]

E. CONCLUSION

The Planning, Programming, and Budgeting System is a complex process designed to involve many layers of DoD leadership. After examining the Programming phase in detail, it becomes apparent that many factors must be taken into account when attempting to allocate resources over a six year timeframe. Current national political, economic, and military strategies, and force guidance from planning scenarios are but a few of these factors. Customer feedback on day-to-day operations, historical funding execution, and additional fiscal limitations must also be considered. The Programming process is somewhat more involved for the medical community due to the unique relationship existing between the services

[32]Office of the Assistant Secretary of Defense for Health Affairs, Certification for FY95 Medical Endstrength (Draft), July 1994, Appendix D.

and ASD(HA). Finally, the Military Health Services System must also contend with congressional mandates on medical manpower levels and certification of CHAMPUS cost containment.

III. TOTAL HEALTH CARE SUPPORT READINESS REQUIREMENT MODEL

A. INTRODUCTION

With a better understanding of the current political and fiscal environment and the rigorous process involved in programming resources for Navy medical endstrength, one can more fully appreciate the difficulties inherent in creating a manpower readiness requirement model for this community. Nonetheless, the Total Health Care Support Readiness Requirement (THCSRR) model was recently developed by the Surgeon Generals's POM FY96 Medical Assessment Task Force as part of an internal baseline assessment. As stated in Chapter One, the Navy does not include the peacetime benefit mission when defining readiness from a manpower standpoint. The THCSRR model, therefore, does not directly address peacetime manpower issues.

The first two components of the THCSRR model revolve around the wartime mission and what has been termed the day-to-day operational mission. The wartime portion entails meeting demands for medical care during two nearly simultaneous Major Regional Conflicts (MRCs). The day-to-day mission involves supporting the Fleet and the Fleet Marine Force (FMF) on a daily basis in an operational capacity. The Medical Operational Support Requirement, or MOSR, represents the union of these two components. A sustainment or training piece constitutes a final component which is added to the MOSR to create the THCSRR. This chapter will examine each of the four components of the THCSRR model separately, including specific background information and concepts applicable to each.

B. WARTIME REQUIREMENT COMPONENT

The first component of the THCSRR incorporates resources designed to meet Navy wartime medical requirements. Although this model relies heavily on the existing database created by

the congressionally mandated 733 Study, it is important to discuss the rationale used in the process of medical wartime planning. It is a complicated arena with many factors and assumptions which affect the quantity and type of medical personnel required. The THCSRR model is designed for medical personnel to support the Navy and Marine Corps; therefore this discussion will emphasize those elements of wartime medical requirements.

1. Navy and Marine Corps Medical Force Structure

Understanding medical manpower readiness requirements begins with the basic organization and utilization of Navy medical assets during a conflict. At the heart of this is a phased approach to combat casualty care designed to return personnel to duty as soon as possible. There are two specific zones into which a wartime theater of operations is divided: the Combat Zone and Communications Zone. The Combat Zone incorporates all land, sea and airspace required to conduct combat operations, while the Communications Zone is the area behind the Combat Zone required for support. Four layers or echelons of medical care are available within these two zones. The first three echelons occur in the Combat Zone and the final echelon of care operates in the Communications Zone. This layering of medical treatment begins with highly mobile yet basic care in the field and evolves to facilities with progressively sophisticated, less mobile medical capabilities farther from the front line.

The Navy and Marine Corps combat medical structures are shown in Figures 3.1 and 3.2 respectively. In the first echelon, emergency care and advanced first aid are administered and casualties are prepared for evacuation from the point of illness or injury to the next echelon of care. This would initially be accomplished by a Navy Corpsman in a Marine Corps unit or onboard a ship. This represents the most

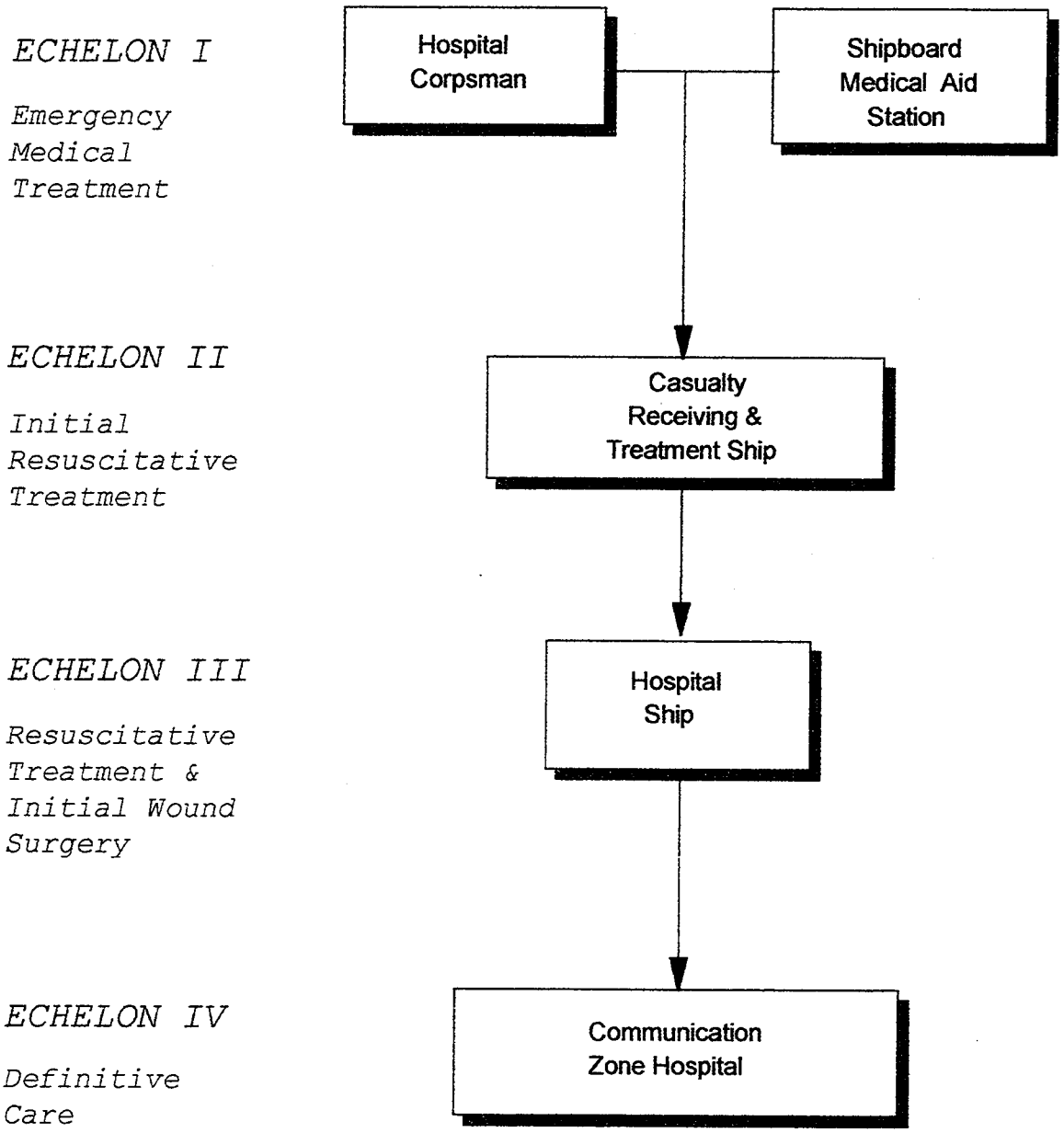

Figure 3.1: Navy Combat Medical Structure

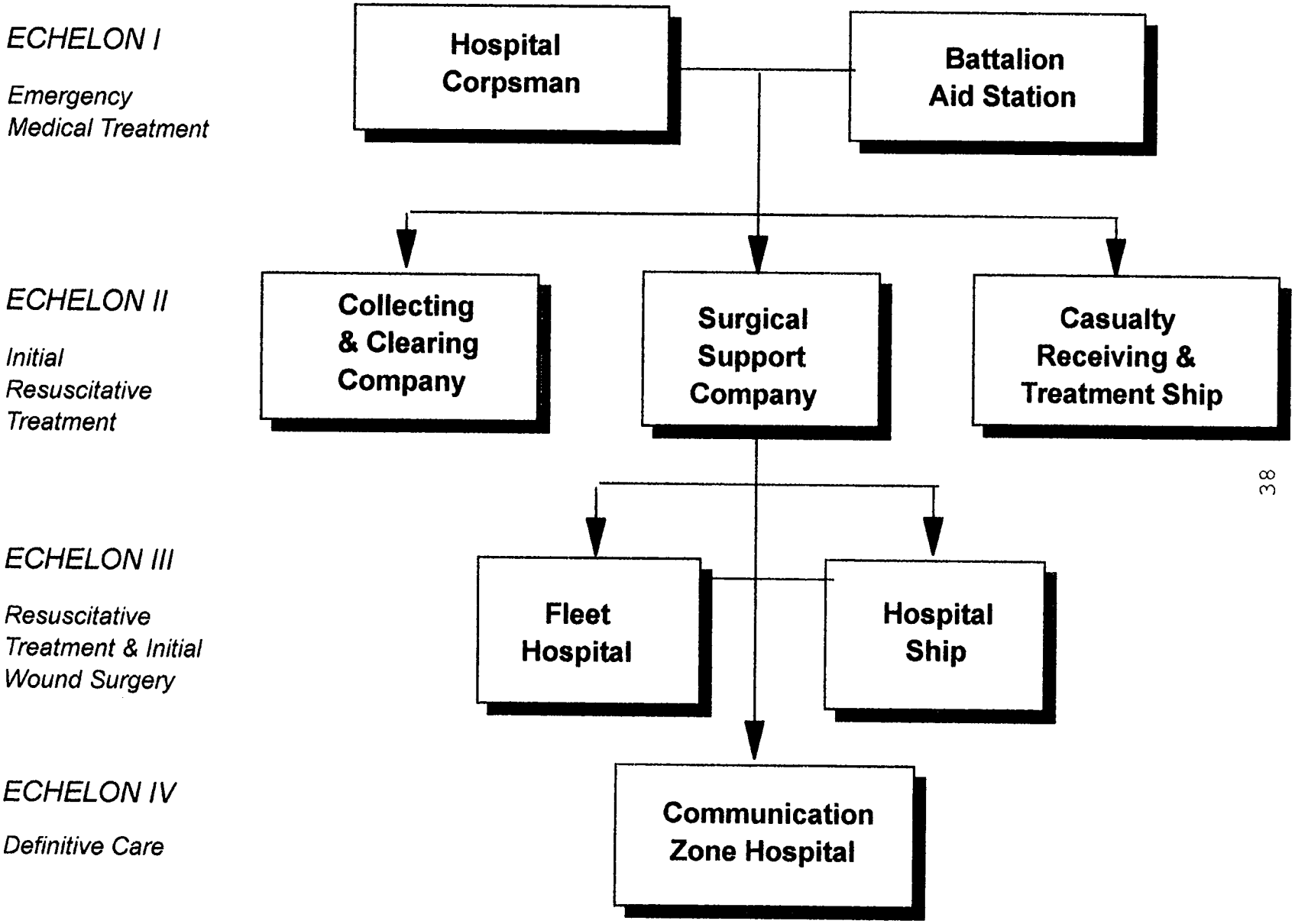

Figure 3.2: Marine Corps Combat Medical Structure

mobile element of the medical support system. Also included in Echelon I care is the Shipboard Medical Aid Station and the Marine Corps Battalion Aid Station, where an appropriate plan of treatment can be initiated in a safer environment. Redressing of wounds, use of antibiotics and intravenous fluids is also accomplished here.

Echelon Two centers around assembly points where casualties are assessed and prioritized for further evacuation. Initial resuscitation and other emergent care are provided by a team of physicians and nurses supported by a medical technician staff. For the Navy and Marine Corps these entail Casualty Receiving and Treatment Ships (CRTS). These are amphibious ships which have secondary medical roles after troops debark. Certain classes of these ships maintain the largest medical capability of any ship currently in commission (with the exception of the hospital ships). They can be augmented with additional medical personnel during wartime. As part of Echelon Two care, the Marine Corps also utilizes Collecting and Clearing Companies and Surgical Support Companies. These facilities help with initial wound surgery, preventive medicine and temporary hospitalization within Echelon Two.[33]

The third echelon of medical care provides resuscitation, wound surgery, and post-operative treatment. It is characterized by more stable installations staffed and equipped for surgical care for patients who are not transportable.[34] Hospital Ships (T-AHs) serve as floating surgical hospitals where acute medical care can be provided.

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[33]Department of the Navy, Bureau of Medicine and Surgery, Medical Contingency Fact Book, August 1993, pp. 2.2.2-.5.

[34]Department of Defense, Assistant Secretary of Defense for Program Analysis and Evaluation, 733 Report (Draft), Appendix G, p. 4.

Also included in the Marine Corps structure are two sizes of Combat Zone Fleet Hospitals to accommodate acute casualties. One is geared to accommodate a 250 bed requirement while the other maintains a maximum capacity of 500 beds. For many patients, resuscitative care constitutes the definitive treatment needed to return them to full duty.[35]

Echelon Four of the combat medical structure consists of a Communications Zone Fleet Hospital and Navy overseas Medical Treatment Facilities (OCONUS MTFs). These hospitals carry a full time, dedicated staff and are designed for definitive rehabilitative care. The fleet hospital, which is usually prepositioned ashore in warehouses, and OCONUS MTFs are capable of performing subspecialty treatment to restore casualties to duty or prepare them for evacuation from the theater of operation. If rehabilitation is not possible within a specified timeframe, casualties are moved to the Continental United States (CONUS). Evacuation to CONUS is often referred to as the fifth and final echelon of care in the combat medical structure. Patients requiring restorative and rehabilitative treatment in CONUS are normally not returned to full duty.[36]

One of the primary elements which links all of the echelons of medical care is evacuation policy. This is a decision concerning the maximum number of days of noneffectiveness a patient may be held for treatment within the theater of operation. Casualties which cannot be returned to active duty status within this timeframe are evacuated.[37] Having a basic knowledge of the Navy and Marine Corps medical

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[35]Department of the Navy, Headquarters United States Marine Corps, Fleet Marine Force Manual (FMFM 4-50), Health Service Support, 19 September 1990, pp. 1-6.

[36]Ibid.

[37]733 Report (Draft), op. cit., p. 16.

combat structure is critical to understanding the nature of how wartime requirements are formulated. Within this framework of echelons of care, wartime requirements can be categorized as either workload-based or structure-based.

2. Workload-based Wartime Requirement

Workload-based medical requirements incorporate aspects of care performed primarily in Echelons Three and Four. An assessment of workload-based wartime medical requirements begins with the Defense Planning Guidance (DPG) described in Chapter II. Annex A of the DPG contains representations of potential combat operations, known as Illustrative Planning Scenarios (IPS), which define force levels and arrival times. The 733 Study utilized the scenarios issued for fiscal years 1994-1999. This entailed conflicts in both Southwest Asia and Korea. Combat intensities and durations were generated by wargames performed by the Joint Staff.[38]

The DPG and IPS are used by all communities within the three services. However, the medical community maintains an additional analytical tool called the Medical Planning Module (MPM) to translate these combat intensities into predictions and evaluations of medical requirements during war. The MPM is a menu-driven subsystem of the Joint Operation Planning and Execution System (JOPES). JOPES is an integrated command and control system designed to satisfy the information needs of senior-level decisionmakers in planning and executing mobilization, deployment, and sustainment activities.[39] The MPM uses five levels of combat intensity sustained for periods of ten days in conjunction with a geographic breakdown of the

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[38]Department of Defense, Office of Program Analysis and Evaluation, The Economics of Sizing the Military Medical Establishment (Draft), 24 March 1994, p. 2.

[39]National Defense University, Armed Forces Staff College, The Joint Staff Officer's Guide, AFSC PUB 1, 1991, Chapter 8, p. 3.

combat theater.[40] Ultimately, it creates simulated admissions by flowing patients through the echelons of medical care and computes medical requirements such as number of physicians, hospital beds, operating rooms, evacuees, as well as blood and intravenous fluid supplies. The personnel requirements generated by MPM encompass non-organic medical personnel. In the case of the Navy and Marine Corps, this includes personnel who do not deploy with actual Navy and Marine Corps units such as Battalions or ships.

Specific planning factors are used as input parameters for the MPM. Two of the most important factors include wounded in action (WIA) rates and disease and non-battle injury (DNBI) rates. These rates not only vary by service but have also undergone drastic changes in recent years. During the Cold War, WIA rates used for planning and programming purposes were high. These same levels were used by the military until 1987.[41] Current IPS analysis involves lower overall intensities and shorter durations of high intensity combat which has resulted in lower anticipated WIA rates. Additionally, there has been a general decrease in DNBI rates and number of evacuees over time due to breakthroughs in the areas of infectious and preventative medicine.

For the 733 Study and thus the THCSRR, a common DNBI rate was negotiated based on inputs from the different services and historical information on Korea, Vietnam, and Operation Desert Storm. Although a common rate was used for the study, each service normally bases its wartime requirements on different DNBI rates. Depending on the climate and terrain involved,

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[40]Interview with Lieutenant Commander J. Forsha, MSC, USN, Office of the Surgeon General of the Navy, Medical Plans and Policy Branch, 26 July 1994.

[41]Interview with Dr. P. Rehmus, Office of the Assistant Secretary of Defense for Program Analysis and Evaluation, 29 July 1994.

rates aboard ships could be much different than those experienced by Marines in the field.

Due to the differences in the nature of warfare encountered by the three services, wounded in action rates for the 733 study were based on service-specific methodologies. For the Navy, casualty rates were taken from the Navy Capabilities Mobilization Plan (NCMP). This is an OPNAV instruction which specifies rates to be used for each type of Navy and Marine Corps unit. The NCMP is updated biannually with the Defense Planning Guidance.[42]

3. Structure-based Wartime Requirement

While the MPM and other well-known planning tools determine the medical wartime requirement based on workload, a structure-based requirement exists as well. This would include all medical personnel organic to specific units needed during wartime or to sustain wartime units, including active duty and reserve personnel both in theater and in CONUS. Much of this involves Echelons One and Two care. Different categories of Navy inputs to structure-based requirements, followed by examples of each, are provided below:

- Echelons I and II Casualty Care - medical personnel stationed on ships, with FMF combat units and in squadrons
- CINC Staff - CINCPACFLT Fleet Medical Officer
- Other Medical Units in Combat Zone - FMF Dental Units
- Other Headquarters and Government Staff Support - Destroyer Squadron (DESRON) medical staff
- Training Commands - Navy Training Center, Great Lakes

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[42]Interview with Lieutenant Commander J. Forsha, MSC, USN, Office of the Surgeon General of the Navy, Plans and Policy Branch, 2 September 1994.

- Other - medical personnel assigned to Military Entrance Processing Stations (MEPS) and Bureau of Naval Personnel (BUPERS) medical staff

Many of these requirements are delineated in the Total Force Manpower Management System (TFMMS), commonly known as the billet file. This is a mainframe database maintained by the Assistant Chief of Naval Personnel for Force Programming and Manpower which contains all officer, enlisted, civilian, and contractor billets or jobs for which the Navy is authorized to spend money at any given time. TFMMS does not include billets to be filled by Marine Corps officers and enlisted personnel. However, since the medical community utilizes Navy manpower assets to meet Marine Corps health care needs, this structure does not necessarily limit or complicate use of the billet file for Navy Medicine.

Organized primarily by command through a Unit Identification Code (UIC), TFMMS contains over 40 data elements for each job. A Naval Officer Billet Classification (NOBC) identifies the essential requirements and officer occupational qualifications acquired through billet experience or through a combination of education and experience. Examples for Navy Medicine include Neurosurgeon (0224), Executive Officer, Shore Activity (9436), Health Care Administrator (0800), and Critical Care Nurse (0904). For enlisted members, a similar code is used called a Navy Enlisted Classification (NEC). Examples of those found in TFMMS include X-ray Technician (8452), Dental Equipment Repair Technician (8732), Mortician (8496), and Dental Administrative Technician (8703).

In addition to UIC and NOBC or NEC, other elements typically include the designator, rank, and subspecialty

needed for the billet. Medical officer community designators include the following:

- 2100 - Medical Corps (MC)
- 2200 - Dental Corps (DC)
- 2300 - Medical Service Corps (MSC)
- 2900 - Nurse Corps (NC)

Medical Corps officers include physicians ranging from general practitioners to highly trained specialists in fields such as thoracic or neurological surgery. Personnel with the Dental Corps designator are trained as dentists. Specialties range from comprehensive dentistry to oral maxillofacial surgery.

The Medical Service Corps is composed of 32 specialties. Areas which are more administrative in nature include health care administration, comptrollership, supply, and medical logistics administration. Other specialists found in the MSC are microbiologists, optometrists, pharmacists, social workers, and psychologists. Finally, the Nurse Corps is composed of officers with training in nursing fields such as critical care, ambulatory care, quality assurance, newborn, and emergency/trauma.

The enlisted community uses rate codes which identify broad enlisted career fields. Rate codes specific to the enlisted medical community are listed below:

- 8000 - Hospital Corpsman (HM)
- 8300 - Dental Technician (DT)

A field is included in TFMMS to delineate whether a particular job is required only during peacetime, only in wartime, or both. Wartime requirements are further divided into those to be filled by active duty personnel, those which

should be accomplished with Reserve Immediate personnel (RI), or those filled by Reserve Delay (RD) personnel.

The predominant distinction made between these categories is one of timing. Mobilization requirements are categorized using a maximum timeframe (in months) within which the billet must be filled. In TFMMS, these take the form of mobilization fields, beginning at month one (M+1) and ending with those billets which need to be filled within one year after the call for mobilization (M+12). Within Navy Medicine, active duty personnel usually fulfill any mobilization requirements for the first 30 days of a conflict, while reserve personnel are typically utilized for mobilization requirements which begin after that timeframe. During normal peacetime operations, those billets identified as peacetime requirements may be 90 percent filled or less; however, jobs deemed to be necessary during war must be at 100 percent capacity.[43]

Given the instrumental role TFMMS data plays in the manpower arena, it is important to determine how it is decided what billets and subspecialties are to be placed in the billet file. The answer for Navy Medicine depends upon the mission involved. Decisions involving manpower to support the peacetime benefit mission revolve around a process called Efficiency Review which in the past has stressed historical workload, size of beneficiary population, and other factors. The THCSRR model incorporates only those personnel required for medical readiness as the Navy defines it; therefore it can be argued that only those billets involved in the wartime operational mission are relevant in this discussion.

This may be true in terms of examining the THCSRR model; however it is imperative to keep in mind the unique degree of

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[43]Phone conversation with Mrs. D. Brascher, Assistant Chief of Naval Personnel, Manpower Requirements and Authorizations Division, 1 September 1994.

interaction between these two missions and how this effects force sizing. War itself is not a continuous state. Those personnel required for war will most certainly be used during peacetime to provide health care to the beneficiary population. Any model or system which determines medical personnel for readiness will in some way determine forces needed during peacetime.

Wartime billets are linked directly with platforms and units through the Required Operational Capability and Projected Operational Environment (ROC/POE) for the Navy and the Table of Organization and Equipment (TO&E) for the Marine Corps. These are classified documents which are validated every eighteen months to two years. They serve as basic guidelines for placement of all personnel on ships and in FMF activities, including medical manpower. Requirements for specific quantities and types of medical officers and enlisted personnel would be designated in the ROC/POE and TO&E for each type of platform.

For example, Table 3.1 lists the number and type of medical personnel designated to serve on major surface ships in the Navy as of FY92. Information presented corresponds to personnel requirements per ship. Columns are organized by designator, with additional distinctions made for Physician Assistant (PA) and Independent Duty Technician (IDT). These numbers represent personnel organic to the platforms listed and who therefore fall into the structure-based requirement category. Some of these platforms will receive additional medical personnel during mobilization for war. This is especially true of the Casualty Receiving and Treatments Ships (CRTS) which are marked with an asterisk in Table 3. Wartime augments are reflected as additions in the mobilization fields of TFMMS.

SHIP	MC	PA	DC	MSC	NC	IDT	HM	DT	TOTAL
AD	1	1	4	2			17	10	35
AE	1	1				1	2		5
AFS	1					1	4		6
AGF	1		1				6	2	10
AO		1				1	1		3
AOE	1		1				5	2	9
AOR	1						4		5
ARS						1	1		2
AS	2		3	2			16	10	33
ASR	1					1	1		3
ATS						1	1		2
CG						1	2		3
CGN	1					1	4		6
CV	2	1	5	2	1	1	28	12	52
CVN	2	1	5	2	1	1	28	12	52
DD						1	1		2
DDG						1	1		2
FF						1	1		2
FFG						1	1		2
LCC	1		1				13	3	18
LHA	1		1	1		1	15	3	22
LHD	2		1	1		1	17	4	26
LKA	1						6		7
LPD	1		1				6	3	11
LPH	1		1			2	9	2	15
LSD	1	1					4	3	9
LST						1	2		3

Table 3.1: Shipboard Medical Requirements[44]

[44]Department of the Navy, Total Force Manpower Management System database, FY92.

The combination of workload-based and structure-based medical wartime requirements constitutes the total wartime requirement component of the THCSRR model. It is worth noting that the results of the 733 Study were organized by designator for purposes of simplicity. To structure the THCSRR model at the more detailed NOBC/NEC and subspecialty levels, the task force relied on supporting documentation used in the calculation of Navy-specific 733 Study inputs. Information contained in the ROC/POE and TO&E was also used to determine requirements at the primary subspecialty level.

C. DAY-TO-DAY OPERATIONAL COMPONENT

The second component of the THCSRR is termed the day-to-day operational segment and has as its foundation a study completed in 1994 by the Center for Naval Analysis (CNA). The basic premise of this portion of the model is that there are certain billets and locations in the Navy medical community which must be filled in order for the Navy to perform its mission on a daily basis. The day-to-day operational portion of the THCSRR defines these types of billets in one of two categories: the Peacetime Operational Force (POF) or the CONUS rotation base (RB) needed to support the POF.

1. The Peacetime Operational Force

According to the model, the three elements of the POF include Fleet and Fleet Marine Force billets, billets out of the continental United States (OCONUS), and those which are located in isolated sites within the United States (ICONUS). Fleet and FMF billets are similar to those organic billets discussed in the previous section; however, POF billets only include those which are required during peacetime. Medical personnel normally stationed on ships, with Marine Corps units, or in squadrons all constitute examples of POF billets.

The OCONUS category includes all billets in medical and dental facilities overseas, in Alaska, and in Hawaii. The

underlying assumption in this case rests with the belief that active duty and dependents should not be forced to rely on medical treatment from host nation physicians.

The final genre of POF billets are those associated with ICONUS locations, specifically the Naval hospital at Twenty-Nine Palms Marine Corps base and the Naval hospital and dental clinic at Lemoore Naval Air Station. These are labeled medically isolated based on the notion that alternative care providers would be difficult and expensive to acquire.

To determine the POF, the model focuses on personnel authorized in the billet file and not on actual medical personnel inventory. BUMED databases called "body files" are designed to track information on actual medical personnel and their subspecialties. One of the rudimentary assumptions is that every medical billet in TFMMS actually constitutes a requirement. If this principle assumption is applied, much of the labor involved in determining the Day-to-Day component of the model lies in identifying and categorizing Peacetime Operational Forces in the billet file. The methodology used in the CNA study centered around information existing in the 1993 billet file; however, the wartime component was calculated for the 1999 timeframe. The task force corrected for this inconsistency by using the 1999 column of TFMMS and then deleting platforms and billets which were programmed to be eliminated but had not yet shown up as losses.

Creation of the POF was primarily accomplished by utilizing existing fields in TFMMS. Of particular significance was the use of Type Assignment Codes (TAC) for officers and the Seashore Codes for enlisted. Both of these fields delineate the nature of a particular activity or billet (e.g., overseas, on sea duty, or shore duty). Tables 3.2 and 3.3 provide descriptions of the different TACs and Seashore Codes used in the billet file as of 1993.

TAC	LOCATION DESCRIPTION	CATEGORY
A	Alaska	OCONUS
C	Sea duty	Fleet
D	Ship or squadron	Fleet
G	Nonmilitary U.S.	Fleet
H	Hawaii	OCONUS
O	Outside CONUS	OCONUS
S	Shore duty	Shore

Table 3.2: Type Assignment Codes in TFMMS[45]

SEASHORE	LOCATION DESCRIPTION	CATEGORY
1	Shore duty	Shore
2	Sea duty	Fleet
3	Overseas shore duty	OCONUS
4	Nonrotated sea duty	Fleet
5	Neutral duty	Shore
6	Preferred overseas shore duty	OCONUS
8	Double sea duty	Fleet

Table 3.3: Seashore Codes in TFMMS[46]

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[45]Center for Naval Analysis, Measuring the Impact of the Navy's Downsizing on Medical Officer Billets, CRM 93-217, March 1994, p. 12.

[46]Center for Naval Analysis, Measuring the Medical Enlisted Rotation Base and the Impact of Force Downsizing, CRM 94-43, April 1994, p. 12.

There is an assortment of billets which are not included in the POF. The most obvious are those involving shore duty in CONUS. These include all CONUS Navy MTFs and DTFs, clinics, headquarters commands, training billets, research and development commands, and any other medical shore support billets. Also eliminated from the POF are any billets with a primary NOBC of 0000, representing the Transients, Patients, Prisoners, and Holding (TPP&H) category. This category of TFMMS billets allows for the fact that at any given time a certain percentage of Navy personnel are being treated in a hospital, are in the process of moving to a new duty station, are on administrative or legal hold, or are in prison.

2. Rotation Base

The second element of the Day-to-Day component of the THCSRR model is a rotation base (RB) for the POF. Conceptually, a rotation base provides a pool of skilled and trained active duty medical personnel from which to draw upon to relieve POF billets. Rationale for creating this group is based on the elemental principle that active duty personnel should remain mobile and therefore are not permanently assigned to an activity. The additional hardships placed on personnel and their families as a result of being stationed in POF billets such as overseas, aboard a ship, or with the FMF highlight this idea. Concepts such as promotion and retention rates as well as training factors were not considered in this portion of the model. Within this context, the rotation base represents a minimum billet requirement excluding elements needed to make a rotation policy executable.[47]

The methodology employed for calculating a notional officer and enlisted rotation base focuses on the ratio of

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[47]Measuring the Impact of the Navy's Downsizing on Medical Officer Billets, op. cit., p. 22.

shore tour length to POF billet tour length. This ratio produces what is termed the RB multiplier. If the shore to sea ratio for a particular medical specialty is 36:12 (in months) with a corresponding RB multiplier of three, the Navy would require three CONUS billets to support each sea billet. The premise is that in each of the next three years, the Navy would be expected to replace one of the sea billets with one person currently ashore.

Factors which help determine the size of the multiplier include information on medical subspecialty, location of duty station, and Navy policy guidelines on tour length. Although the conceptual framework behind the RB multiplier is similar for officers and enlisted, significant differences in assumptions will be outlined.

a. Sea-Shore Rotation Assumptions

Naval officers are typically assigned to shore tours for 36 months and fleet tours for 24 months, resulting in a shore to sea tour ratio of 36:24, or 1.5. This 1.5 ratio is used in the model as a multiplier for each medical officer POF billet in TFMMS which shares this sea-shore rotation policy to create a rotation base. There are many deviations from this general case depending on which NOBCs or subspecialties are involved. Medical and surgical specialty officers may serve at some sites for only 24 months, while medical service corps and nurse corps officers may be required to remain for a full 36 months. Another exception involves the abbreviated 12 month fleet tour for surgeons serving on aircraft carriers. In this case, the shore to sea ratio would be 36:12 and the RB multiplier would be three vice 1.5.

The nature of enlisted career paths fostered somewhat different methods of calculating the enlisted RB for the THCSRR. Due to educational requirements to learn the fundamentals of the Hospital Corpsman (HM) and Dental Technician (DT) ratings, sea-shore rotation rules usually

apply only to those personnel beyond their first reenlistment. In addition, all DTs and only those HMs with NECs are eligible for sea assignments directly following their school training. For these groups the model assumes that a rotation base is needed only for those billets with a paygrade of E-5 or above, as this is the typical rank upon graduation.[48] The overall enlisted rotation policy also differs from that of officers. Most NECs now have a rotation policy of INUS for one tour followed by one tour OUTUS. Although no translation exists for these acronyms, they correspond to particular types of duty. OUTUS duty is usually not less than 36 months and includes sea-shore codes 2, 3, 4, 5, 6 and 8. INUS duty, on the other hand, is 48 months long and consists of code 1 activities including Hawaii and Alaska.

b. OCONUS Rotation Assumptions

OCONUS billets are unique in the fact that, in most cases, tour length is a function of whether the service member is accompanied by dependents. Accompanied OCONUS tours are traditionally 36 months long while unaccompanied tours are shortened to 24 months, producing RB ratios and multipliers of 36:36 (1) and 36:24 (1.5), respectively. Calculation of a notional rotation base for OCONUS POF billets thus requires an assumption concerning the average number of accompanied and unaccompanied tours.

The THCSRR model conjectured an accompanied tour weight of 75 percent for officers and 25 percent for enlisted. The presumption in this case is that more officers on average bring families with them to overseas assignments. As in the fleet tours, there are exceptions to the generic cases of 36 or 24 month overseas tours. OCONUS tour lengths can vary between 12 to 30 months, depending on the location and medical

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[48]Measuring the Medical Enlisted Rotation Base and the Impact of Force Downsizing, op. cit., p. 17.

subspecialty involved. Both the Officer and Enlisted Transfer Manuals were consulted and exceptions were taken into account whenever possible.

D. THE MEDICAL OPERATIONAL SUPPORT REQUIREMENT COMPONENT

After close examination of the wartime and day-to-day operational components, it becomes clear that certain billets are inherent in both. This characteristic prohibits the simple addition of the two sets of readiness requirements because those billets would in effect be counted twice. This logic serves as the impetus for the third component of the model called the Medical Operational Support Requirement or MOSR. The MOSR filters out those redundancies yet maintains unique billets by taking the union of the wartime and day-to-day components. This is accomplished by examining the numbers generated by the two components for a particular NOBC/NEC or subspecialty and taking the higher of the two. Table 3.4 illustrates this concept using a random assortment of medical officer and enlisted specialties. Information contained in the table was extracted from a printout of the THCSRR database and reflects the most current version as of July 1994. The DTD column represents day-to-day operational requirements, including rotation base, according to the CNA study. The WAR column lists the Wartime Requirements component defined in the 733 Study.

The model lists anywhere from nine to nearly fifty NOBCs or NECs for any particular medical officer designator or enlisted rate. If an NOBC was administrative in nature, such as Executive Officer, the task force changed the NOBC to match the subspecialty listed in TFMMS. In addition, some subspecialty codes were combined for simplification purposes.

After individual NOBC/NEC or subspecialty figures are computed, total MOSR numbers for each officer designator and enlisted rate are generated. For example, MOSR components for

all 42 NOBCs in the Medical Corps, which would include the two cases provided in Table 3.4, are added to form one overall Medical Corps MOSR number. The MOSR component of the THCSRR model represents the minimum number of fully trained active duty personnel, by corps, required to accomplish both the wartime and day-to-day missions of Navy Medicine.

NOBC/NEC	DESCRIPTION (corps)	DTD	WAR	MOSR
8432	Preventative Medi-cine Technician (HM)	723	513	723
8752	Basic Dental Lab Technician (DT)	85	152	152
0115	Psychiatrist (MC)	5	2	5
0214	General Surgeon (MC)	138	230	230
0113	Physicians Assistant (MSC)	140	190	190
0935	Ambulatory Care Nurse Professional (NC)	108	36	108
0560	Periodontist (DC)	44	18	44

Table 3.4: Sample MOSR Calculation by NOBC/NEC

E. SUSTAINMENT COMPONENT

The fourth and final portion of the model involves a sustainment piece designed to allow for a continuous flow of qualified personnel into MOSR specified jobs as personnel

attrite.[49] Losses are attributed either to members deciding to leave the Navy or moving to a higher skill level and thus leaving a particular NOBC/NEC.

According to the model, sustainment is composed of four elements: loss rates, training billets, mission continuity, and Transients, Patients, Prisoners, and Holding (TPP&H). This section will outline the basic assumptions and the underlying principles behind each of these elements as they relate to the THCSRR model.

1. Annual Loss Rates

Deriving the sustainment component involves the assessment and application of attrition rates for each specialty. These rates are used to determine the number of medical personnel which must be recruited into the system to replace losses. Computations entail taking a weighted average of the loss rates by specialty for the previous five years. Due to data irregularities, the year in which Operation Desert Storm occurred was not included in loss rate calculations. In addition, fluctuations in initiatives such as Selective Reenlistment Bonuses (SRBs) plus unavailability of attrition rate data for years other than 1993 limited these calculations for many of the NECs. To illustrate this methodology, if the attrition rate for Preventative Medicine Technicians listed in Table 3.4 is computed at nine percent, then the sustainment piece to resupply that subspecialty would be approximately 65 personnel (723 X 9% = 65).

2. Training and Graduate Medical Education

Some of the communities within Navy Medicine directly recruit personnel who either already possess the necessary skills and training or acquire them in a fairly short

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[49]Lieutenant T.H. Weber, MSC, USN, The THCSRR Model: Determining Navy Medicine's Readiness Manpower Requirements, Navy Medicine (Draft), 1994, p. 6.

timeframe. However, additional sustainment elements are considered for certain specialties because of the complicated and lengthy nature of their training. Medical and Dental Corps officers are unique in that they require several years of training in general and then in specialty areas in order to perform as certified physicians.

A basic understanding of a typical training pipeline through residency is beneficial when discussing the sustainment component for these medical officers. Under the current system, Medical Corps personnel can be trained using either the Armed Forces Health Professions Scholarship Program (AFHPSP) or Navy Active Duty Deferred Scholarships (NADDS). The latter involves the complete training of a specialist using civilian programs and is therefore not considered for the purposes of the THCSRR model.

The AFHPSP, on the other hand, involves a rather complicated network of "in-house" military medical training in what is called the Graduate Medical Education (GME) program. GME begins with an internship program in one of three Navy training hospitals, followed by either immediate entry into a residency program or a tour with the Fleet or FMF as a General Medical Officer (GMO), Flight Surgeon, or Undersea Medical Officer (UMO). Before being deployed with such units, these personnel require additional, military-specific training which the sustainment piece takes into account. Upon completion of these tours, personnel either get out of the service or advance to more sophisticated training in a residency program within the Navy or through the Full Time Out Service (FTOS) program in the civilian sector.

Several conceptual principles regarding internship and GME residency training impact computation of the sustainment portion of the model. The first is that complete reliance on the alternative (e.g., civilian resources) for the Medical Corps would not provide the quality, specialty mix, or numbers

prescribed by the MOSR. This stems from the practice of utilizing GMOs in Fleet and FMF billets after 12 month internships. Navy Medicine maintains that the GMO is critical to the casualty care and flow expectations of Echelons I and II. The Navy deploys these officers in isolated environments without the assistance of other specialists or experienced medical officers.

For this reason, Navy GME currently consists of a well rounded internship program which incorporates medicine, surgery, critical care, emergency care, OB/GYN, and ambulatory care. This is in contrast to most civilian training programs which have instituted a more categorical internship focusing on a single medical specialty with the expectation an intern will continue education in that area. This has led to the philosophy that civilian interns are not adequately trained to meet Navy operational GMO billets. By the same token, civilian residents who have been fully trained in a medical specialty may be over-qualified for these billets and could encounter skills erosion if placed there.

In either case, the premise is that personnel trained by the civilian sector lack the military-specific training gleaned from an in-house GME program. If this rationale is accepted, the current method of "growing" Navy physicians is essential to sustainment of the MOSR and GME billets should be considered.

The second issue centers around the accreditation process and its impact on the training portion of sustainment. To recruit and retain the physicians necessary for the MOSR, the Navy internship and GME residency training programs must be competitive with their civilian counterparts. Nationally recognized credit for internship requires training programs that are accredited by the Residency Review Committee (RRC) of the American Council for GME (ACGME). This civilian institution specifies guidelines for the number of training

years for each program, the volume and age of patients each trainee must encounter during training, and the minimum number of students who can be in a program in a given year.

In addition to these factors, accreditation of most GME residency programs depends on the presence of other associated accredited residency programs. For example, an Otolaryngology (commonly known as ears/nose/throat or ENT) residency program would not be accredited without the existence of surgery, orthopedic, pediatric, and internal medicine programs as well.[50] The THCSRR model incorporates these accreditation requirements into the sustainment piece by allowing for intern and resident billets to support the MOSR.

3. Mission Continuity Element

The Mission Continuity Element (MCE) is the third component of the sustainment piece. It defines a small number of staff specialty billets which provide the appropriate stability, senior credibility and experience for the rotation base. For physicians, it also allows for the number and specialties of teaching and research staff dictated by ACGME training requirements. Because the American Dental Association requires incumbent residents to maintain accreditation with a minimum of one resident per year, certain Dental Corps billets are added to the MCE. Certain Health Care Science (HCS) Medical Service Corps officer subspecialties are also included in the MCE due to inability to find comparable specialists in the civilian sector.

4. Transients, Patients, Prisoners, and Holding

This category of billets in TFMMS was defined earlier in the chapter as those personnel who are either being treated in the hospital, in the process of moving, on legal or

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[50]Phone conversation with Ms. L. Agular, General Medical Education Office, Oakland Naval Hospital, 8 September 1994.

administrative hold, or in prison. The Navy Bureau of Personnel (BUPERS) determines, based on historical data, how many billets generally fall into this category at any given time. Although the model did not include TPP&H billets in rotation base calculations, they are added as part of the sustainment piece.

F. THE THCSRR

The sustainment portion of the model is simply added to the MOSR component, by specialty, to attain the Total Health Care Support Readiness Requirement for Navy Medicine. The THCSRR was designed to represent the minimum number of active duty medical personnel which should be programmed for in order to achieve Navy medical readiness. Figure 3.3 illustrates the various components of the THCSRR model, including the principles and policies behind each.

This model incorporates a broad spectrum of ideals. The complicated arena of medical wartime planning introduces factors such as WIA and DNBI rates, echelons of care, and medical support elements. The day-to-day portion utilizes the billet file in combination with existing rotation and tour length policies to estimate daily operational requirements and a supporting rotation base. After these two elements are joined and redundancies are eliminated, a sustainment tail is added. This is designed to resupply losses and maintain a training structure to ensure continuity, sustained skill level, and compliance with civilian accreditation guidelines. The assumptions, generalizations, and underlying principles outlined in this chapter affect the outcomes of the model and are therefore worthy of examination.

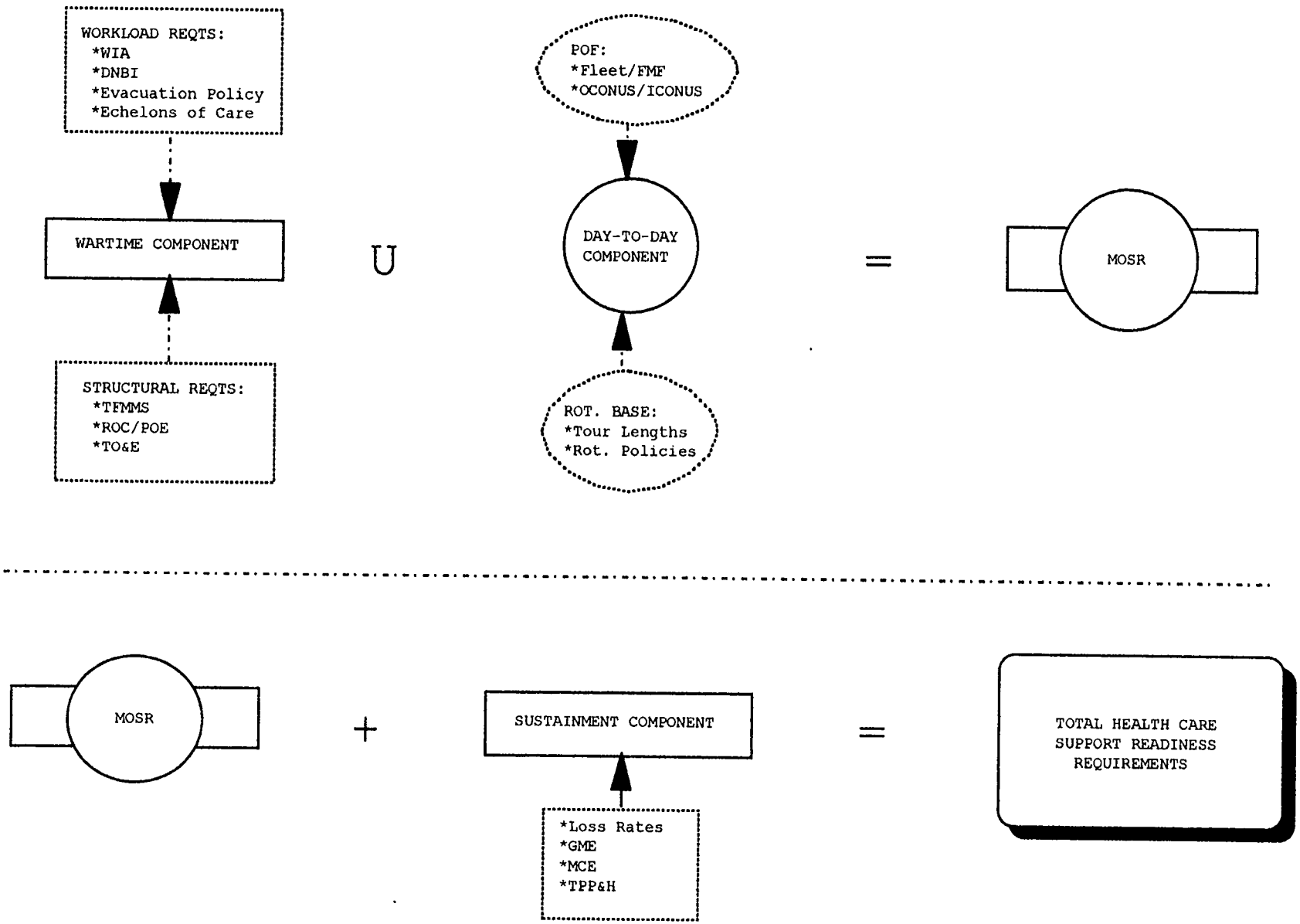

Figure 3.3: Components of the THCSRR Model

IV. MODEL DRIVERS AND TRADEOFF IMPLICATIONS

A. INTRODUCTION

The actual composition of the THCSRR model described in the previous chapter furnishes valuable information on the policies, practices, and priorities which currently govern the force structure of the Navy medical community. The model's underlying principles provide a framework with which to view the Navy's definition of medical readiness manpower requirements. In this chapter, the model's role as an analytical tool will be examined, including a discussion of the possibilities it may introduce for those making critical decisions about the future size and structure of Navy Medicine. These are decisions which entail serious financial and political repercussions, not to mention possible effects on the methods of providing health care to a large beneficiary population.

Results of the THCSRR can serve as a magnifying glass, helping to reveal which missions, assumptions and policies are driving medical endstrength levels and thus personnel costs. In addition, the model provides a starting point for future analysis of methods of supporting the peacetime benefit mission in a cost effective manner. Using the model for these purposes may enable Navy leadership to make more informed policy and force structure decisions based on focused cost benefit analysis.

It is not the intent of this study to actually perform cost benefit analysis using the THCSRR model. Not only could that subject constitute grounds for a thesis in itself, it would also require more precise data than is currently available from the model. All numbers generated from database printouts to date have been labeled "notional" in nature. This chapter illustrates how a financial manager might capitalize

on such a model to initiate cost benefit analysis and consider tradeoff possibilities.

Analysis in this chapter relies on notional results of the THCSRR model as of the end of July 1994. A complete database of MOSR calculations by NOBC/NEC is provided in Appendix A. All tables in this chapter are excerpts from that appendix. Unless otherwise indicated, day-to-day and wartime requirements will be labeled DTD and WAR in all tables and figures.

The initial sections of this chapter will delve into overall results of the model and their implications at the macro level. This analysis will also provide a broad perspective on the relative sizes of Navy medical endstrength requirements by designator and mission. Distinctions will then be made between MOSR billets dominated by the day-to-day operational mission and those driven by the wartime mission. Subsequent sections will outline factors driving each component of the model and provide examples of specialties which are affected solely by those components. The final section of this chapter illustrates tradeoff possibilities which the model may allow for and analyzes those which the model does not address.

B. OVERVIEW OF THCSRR RESULTS

A general overview of the results obtained from this model provides a glimpse at the total quantity of personnel required in each medical community. Table 4.1 shows Total Health Care Support Readiness Requirement by Corps for fiscal year 1999. Also included are endstrength levels which have been programmed for the same time period. As explained in Chapter III, the MOSR is calculated by taking the union of the wartime and day-to-day operational requirements. THCSRR numbers are generated by adding a Sustainment component to the

MOSR. Figure 4.1 is a graphical representation of the THCSRR illustrating percentage contributions from each Corps.

CORPS	DTD	WAR	MOSR	SUSTAIN-MENT	THCSRR	FY99 PROGRAM
Medical Corps	1695	2105	2340	1377	3717	4109
Dental Corps	1225	746	1236	55	1291	1378
Medical Service Corps	1411	1790	2119	409	2528	2685
Nurse Corps	1338	2385	2698	293	2991	3243
Hosp. Corpsman	13677	23960	25010	1545	26555	25496
Dental Tech-nician	1640	2734	2854	196	3050	3125
TOTALS	20986	33738	36257	3875	40132	40205

Table 4.1: THCSRR Results by Corps For FY99[51]

The principle benefit of examining the model in this form is that it affords the opportunity to compare results with programmed endstrength levels by Corps. The THCSRR is designed to identify manpower readiness requirements; personnel in excess of model numbers would be used solely for the peacetime benefit mission in CONUS.

[51]Notional THCSRR data supplied by the Office of the Surgeon General of the Navy, Medical Plans and Policy Branch, 31 July 1994.

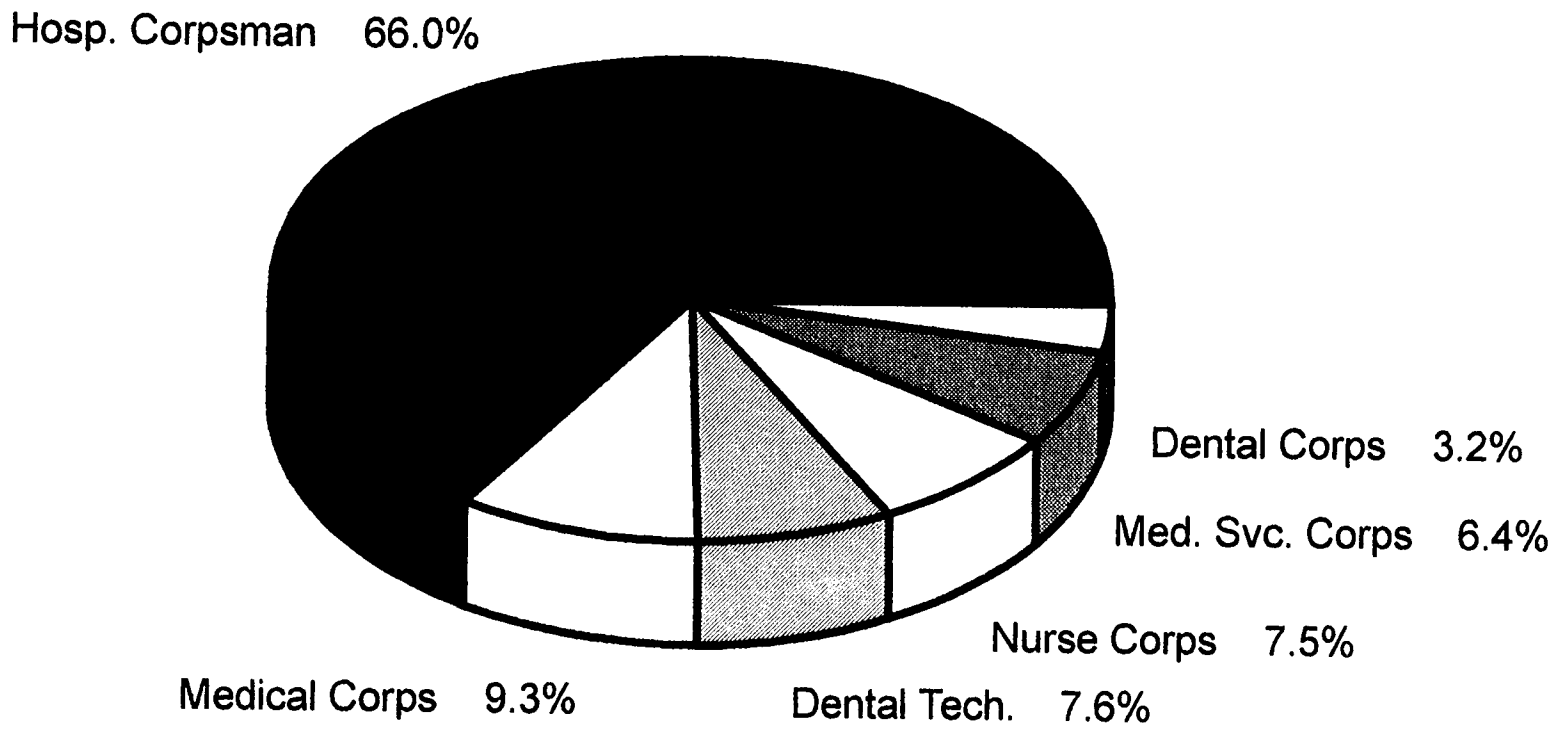

Figure 4.1: THCSRR Percentage Breakdown By Corps

The following list provides a breakdown of the number of billets which are in excess of the THCSRR:

- Medical Corps - 392
- Dental Corps - 87
- Medical Service Corps - 157
- Nurse Corps - 252
- Dental Technician - 75

With the current emphasis on rightsizing all aspects of the military, this information would prove instrumental in assessing possible alternatives to providing cost effective health care. This idea will be examined in greater detail in the final section of this chapter.

C. DISSECTING THE MOSR COMPONENT

Due to the nature of the union mechanism used in calculating the MOSR component, overall MOSR results by designator contain an undistinguishable mixture of billets required for each mission. Examining the model at this broad level may be misleading in some respects. For instance, results in Table 4.1 could lead one to infer that Dental Corps manpower requirements are the only billets to be influenced primarily by the Day-to-Day Operational component of the model. This might in turn lead a decisionmaker to believe that options are limited because almost all medical requirements stem from the wartime mission.

Why is it important to make these distinctions? The answer is a simple one based on a common sense approach to resource management. It is extremely difficult to make effective financial and policy decisions, conduct cost benefit analysis, or examine tradeoff possibilities without knowing the precise source of requirements and costs.

Examining the MOSR by NOBC/NEC and subspecialty rather than by Corps reveals which types of billets are influenced by the different model components. It is possible, therefore, to compute the percentage of each Corps in which the medical specialties have a day-to-day requirement exceeding those of the wartime requirement. Using information in Appendix A, Wartime and Day-to-Day components were analyzed at this more detailed level. The following are percentages of each Navy medical community's MOSR billets which are influenced primarily by the day-to-day operational requirement:

- Medical Corps - 25%
- Dental Corps - 98.9%
- Medical Service Corps - 31%
- Nurse Corps - 18.6%
- Hospital Corpsman - 6.1%
- Dental Technician - 31%

These statistics do not describe the percentage of MOSR billets required purely for the day-to-day mission. Rather, they reflect the percentage of billets in which the Day-to-Day component is greater than the Wartime component. For example, 18 of the 42 Medical Corps NOBCs had day-to-day requirements which exceeded wartime requirements. These 18 NOBCs had a combined MOSR requirement of 586 billets. This constitutes 25 percent of the total MOSR requirement for the Medical Corps.

As expected, the Dental Corps requirements are influenced almost exclusively by the Day-to-Day component. In addition, substantial portions of both MSC, DT, and MC billets stem from this requirement as well. Examples of these types of specialties for the MSC include Comptroller, General Supply Officer, Administrative Officer, and Food Service Medical Facility Officer. Medical Corps billets driven by the day-to-

day mission include Pediatricians, Family Practitioners, Child Psychiatrists, and Obstetricians/Gynecologists. Examples of enlisted billets in the dental community which fall into this category are Dental Administrative Technician, Dental Equipment Repair Technician, and Field Service Dental Technician.

The remaining MOSR billets are influenced predominantly by wartime requirements. Hospital Corpsman billets constitute the largest percentage, including Surgical Technologists, Basic Laboratory Technicians, and Advanced X-Ray Technicians. Examples of Nurse Corps billets falling into this category are Nurse Anesthetist, Staff Nurse (Professional Nurse subspecialty), and Critical Care Nurse.

This process of identifying the subspecialties influenced by each of these two components is important within the context of analyzing this model. Tradeoffs and force sizing decisions are made at the subspecialty level in most cases, therefore it is extremely beneficial to identify which specialties are influenced by particular requirements.

This analysis also helps answer questions regarding what percentage of the current force is devoted to wartime requirements, day-to-day operations, sustainment, and peacetime benefit. Figure 4.2 breaks down FY99 programmed endstrength into these categories. An additional category labeled "Both DTD & War" was created for those billets which are required for both wartime and day-to-day operational missions.

The next sections examine factors driving the wartime and day-to-day requirements themselves; however, this analysis will be of marginal use if one does not understand which billets and subspecialties are affected by each mission. For instance, changes in factors driving the wartime requirement would produce only slight changes in a subspecialty influenced predominantly by the day-to-day mission.

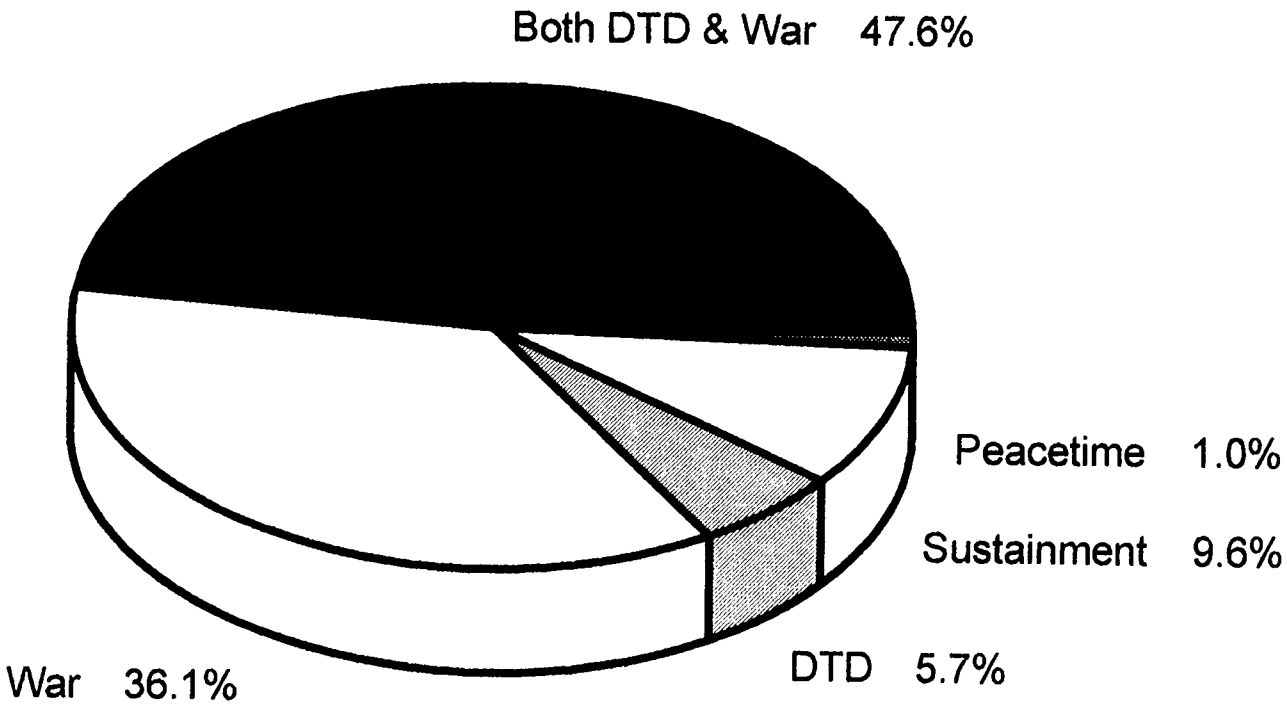

Figure 4.2: FY99 Programmed Endstrength by Mission

D. DRIVERS OF THE WARTIME COMPONENT

The wartime requirements of the model are driven primarily by the Illustrative Planning Scenarios and the guidelines established by the DPG. These lay the foundation upon which all DoD wartime requirements are based. For the medical community, this involves factors which transform battle scenarios and casualty rates into demand for medical care performed by a certain quantity and specialty mix of medical personnel. The THCSRR model assumes these factors are fixed.

Rather than focusing on the macro policy decisions and fixed assumptions of these planning tools, it may be more beneficial to highlight some of the input parameters which significantly drive the readiness model. These include the Wounded in Action (WIA) and Disease Non Battle Injury (DNBI) rates as well as the overall theater evacuation policy. This section will not only discuss these elements and their effects on manpower readiness requirements, but will also provide some insight into medical officer NOBCs and enlisted NECs driven solely by wartime requirements according to the THCSRR model.

As discussed in Chapter III, WIA and DNBI rates are based largely on historical and subjective assessments. Changing threats, the increasing importance of peacekeeping operations, and uncertainty surrounding the nature of future combat intensities may lead to an overall decrease in the WIA rates used for planning purposes. Technological innovations which increase the survivability of our weapons platforms will also lower and change the distribution and types of casualties.

DNBI rates will vary by theater due to climate, weather, endemic diseases, and the nature of operations.[52] Medical

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[52]Hix, W.M., and Hosek, S., Elements of Change in Military Medical Force Structure: A White Paper, RAND Note N-3272-FMP/RA/PA&E, January 1992, p. 10.

advances in the prevention and treatment of disease as well as health and sanitation training for combat forces will change these rates over time. If recent conflicts are any indication of future trends, DNBI casualties will drive an increasing proportion of the demand for combat medical care as compared to WIA casualties. Nonetheless, lower rates in both these areas would drive smaller wartime component requirements for many of the medical specialties in the Navy THCSRR.

Evacuation policy is yet another parameter which heavily influences medical wartime requirements. This involves a determination as to which patients are to be evacuated based on estimates of the total length of time they are expected to be hospitalized. Unlike casualty rates which are determined largely by the mission and probable wartime scenarios, evacuation policy is set by planners and therefore offers wide latitude as to the relative proportions of treatment provided in the theater of operations and CONUS. Transportation technology has shortened feasible evacuation times. Policies were generally kept at 150 days during World War I and were lowered to 60 days during World War II. Recent guidance has directed the services to support a 15-day theater evacuation policy during peak demand.[53] Shorter evacuation policies would lead to a decrease in the number of medical personnel required in theater.

By examining the notional numbers generated by the MOSR, it becomes clear which officer NOBCs and enlisted NECs are only required during wartime. Table 4.2 provides a list of these billets and a brief description of each.

This information provides a baseline against which to measure actual composition of the current Navy medical establishment. For instance, the model indicates a

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[53]FY99-01 DHP Program Objective Memorandum Preparation Instructions, op. cit., p. 4.

requirement for two Plastic Surgeons (plus the associated sustainment tail) to be utilized during wartime only. Any Plastic Surgeons currently in the system over and above that number would be in excess of readiness requirements and would therefore be open to cost benefit analysis. Many of the Medical Corps subspecialties falling in this category are extremely training intensive and therefore have larger sustainment requirements. This provides even more incentive to ensure they are being utilized in a cost effective way.

NOBC/NEC	CORPS	DESCRIPTION	DTD	WAR	MOSR
8705	DT	Dental Hygienist Tech.	0	5	5
8765	DT	Dental Lab Technician, Maxillofacial	0	2	2
0169	MC	Preventative Medicine, Public Health	0	1	1
0224	MC	Neurosurgeon	0	21	21
0254	MC	Plastic Surgeon	0	2	2
0264	MC	Thoracic & Cardio-vascular Surgeon	0	13	13
0580	DC	Oral Pathologist	0	2	2
0822	MSC	Medical Facility Liaison Officer	0	1	1
0854	MSC	Research Psychologist	0	13	13
TOTAL					60

Table 4.2: Billets Required Exclusively During Wartime

E. DRIVERS OF THE DAY-TO-DAY COMPONENT

One of the most influential factors in the Day-to-Day component is the rotation base for the peacetime operational forces (POF). Recall from the previous chapter that a rotation base is designed to provide a pool of skilled and trained active duty medical personnel to relieve those serving overseas, with the Fleet and Fleet Marine Force, and in ICONUS duty stations. While awaiting assignment to POF billets, these personnel serve in CONUS hospitals and clinics providing health care services to active duty members and the beneficiary population. This illustrates an example of the unique relationship and interdependency between the different missions of Navy Medicine.

Rotation base numbers are essentially driven by Navy personnel rotation and tour length policies. Although these are fairly standard for most Navy line communities, medical personnel often serve in Fleet and OCONUS tours for shorter durations. These billets with shorter tours require a larger pool of CONUS billets to relieve them and thus drive up the day-to-day operational requirement.

Figure 4.3 and Table 4.3 illustrate the size of the rotation base relative to the total day-to-day requirement by designator and rate. The Dental Corps RB encompasses nearly 60 percent of the day-to-day component for that community, followed closely by the Medical Service Corps and Nurse Corps with 56.5 and 55 percent respectively. When all medical communities are combined, over 40 percent of the day-to-day operational requirement is composed of CONUS rotation base billets.

Just as with the Wartime component, there are billets which the model categorizes as being required only during day-to-day operations. These billets sum to over 540. Tables 4.4 through 4.8 provide a detailed breakdown by Corps of those billets which the model labels as strictly day-to-day

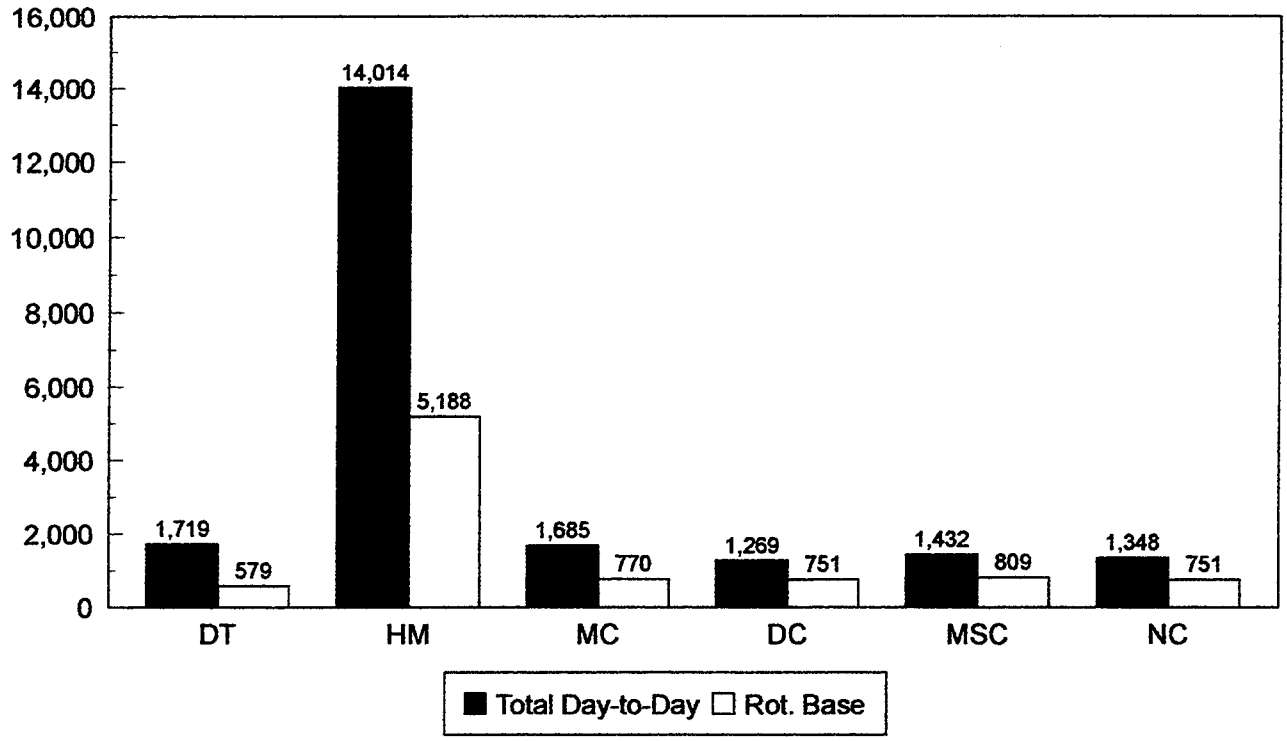

Figure 4.3: Graphical Representation of Rotation Base by Corps

CORPS	RB as a % of Day-to-Day for this Corps
Dental Technicians	33.7
Hospital Corpsmen	37
Medical Corps	45.7
Dental Corps	59
Medical Service Corps	56.5
Nurse Corps	55.7
Total of all Corps combined	41

Table 4.3: Rotation Base as a Percentage of Day-to-Day Requirement

operational requirements. Officer subspecialties are provided in instances where NOBC codes were not as specific as the model required.

NOBC/NEC (subspec)	DESCRIPTION	DTD	WAR	MOSR
0005(1910)	Dir, Health Service or Program (Med/Surg. Nursing)	2	0	2
0005(1940)	see above (Ambulatory Care Nursing)	2	0	2
0020(1901)	Health Service Dept. Head (Admin)	5	0	5
0028(1945)	Health Service Div. Officer (Emergency/Trauma Nursing)	2	0	2
0944(1923)	Staff Nurse (Newborns)	2	0	2
TOTAL		13	0	13

Table 4.4: NC Billets Required Exclusively For Day-to-Day

NOBC/NEC (subspec)	DESCRIPTION	DTD	WAR	MOSR
8783	Dental Surgical Technician	13	0	13
8427	FMF Recon. Corpsman	99	0	99
8467	Occupational Therapy Asst.	14	0	14
8491	Special Ops. Independent Duty Corpsman	203	0	203
TOTAL		329	0	329

Table 4.5: Enlisted Billets Required Exclusively For Day-to-Day

NOBC/NEC (subspec)	DESCRIPTION	DTD	WAR	MOSR
0030	Health Science Research	2	0	2
00XX(1802)	Medical Logistics Admin	2	0	2
00XX(1805)	Plans, Ops, & Medical Intel	2	0	2
0800(1801)	HCA (Patient Admin.)	7	0	7
0801(1800)	Admin. Off, Dental Service	2	0	2
0841(1819)	Microbio. (Parasitology)	2	0	2
0841(1821)	see above (Virology)	2	0	2
1005(1802)	Accounting (Med Log. Admin)	2	0	2
TOTAL		21	0	21

Table 4.6: MSC Billets Required Exclusively For Day-to-Day

NOBC/NEC (subspec)	DESCRIPTION	DTD	WAR	MOSR
0335(1725)	Dental Off. Gen. Practice (Comprehensive Dentistry)	76	0	76
0340(1745)	Operative Dentist (Oral Medicine/Diagnosis)	3	0	3
0525(1700)	Compreh. Dent (Gen. Dent)	22	0	22
0550(1700)	Oral Maxillofacial Surgeon (General Dentistry)	7	0	7
0550(1760)	see above (Periodontics)	3	0	3
0569(1700)	Prosthodontist (Gen. Dent)	15	0	15
TOTAL		126	0	126

Table 4.7: DC Billets Required Exclusively For Day-to-Day

NOBC/NEC (subspec)	DESCRIPTION	DTD	WAR	MOSR
0030	Health Science Research	3	0	3
0031	Plans, Ops, & Medical Intelligence	3	0	3
0101(1641)	Internist (Infect. Disease)	17	0	17
0102(1602)	General Practice Medical Officer (Flight Surgeon)	3	0	3
0108(1600)	Family Practitioner (General Medical Officer)	12	0	12
0108(1601)	Family Pract (FMF Medicine)	5	0	5
0108(1602)	see above (Family Practitioner)	3	0	3
0110(1605)	Flt. Surgeon (Undersea Med)	1	0	1
0160	Preventative Medicine	5	0	5
TOTAL		52	0	52

Table 4.8: MC Billets Required Exclusively For Day-to-Day

F. TRADEOFF POSSIBILITIES

With all the THCSRR components dissected and model drivers identified, one can begin to better appreciate the tradeoff possibilities inherent in sizing the Navy's medical establishment. This section will first address those tradeoffs which the model highlights. These include the following:

- Rotation policy versus retention
- Active duty providers versus civilian providers
- Line personnel versus medical staff personnel

Also of interest in this discussion are tradeoff considerations which are beyond the scope of the THCSRR model. These illustrations help to frame the idea of using cost benefit analysis to make informed tradeoff decisions. Examples include the following:

- General practitioners versus specialists
- Medical Corps personnel versus personnel in other medical designators
- Capital equipment/technology versus medical personnel

1. Within Model Capabilities

One method of using this model to make tradeoffs is to focus on the relationship between rotation policies and retention rates. Altering current sea tour lengths outlined in the Officer and Enlisted Transfer Manuals from 24 to 36 months for most medical officer NOBCs and from 12 to 24 months for surgical specialties would decrease the RB multipliers, thereby decreasing the required CONUS relief billets. The same results would occur if enlisted medical personnel changed to a 36 month INUS and 36 month OUTUS rotation schedule. Further study has revealed a potential decrease in enlisted RB billet requirements of between 13 and 25 percent depending on the NEC.[54] In addition, all officer and enlisted overseas tours could be subject to the longer accompanied tour length.

Although rotation base requirements decrease, there are costs associated with such policy changes. Retention rates for medical specialties could decrease as a result of increased sea duty requirements. Additional forms of refresher training may also be required upon reentry into the CONUS Medical Treatment Facility system. These alternatives

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[54]Measuring the Medical Enlisted Rotation Base and the Impact of Force Downsizing, op. cit., p. 25.

and their effects on endstrength requirements would have to be weighed. Such policy changes would only decrease personnel requirements for those specialties with a DTD number greater than the WAR number. In all other cases the MOSR component would be driven by the wartime requirement, therefore lowering the rotation base multiplier would not have an effect on MOSR requirements.

The second type of tradeoff possibility the THCSRR model highlights involves substituting active duty medical personnel with civilian health care providers. When results of the model are compared to programmed endstrength levels, billets and corresponding specialties which are in excess of model requirements would be candidates for this type of tradeoff. Often referred to as make versus buy analysis, this process requires careful consideration of several factors unique to the medical community.

First and foremost, all costs associated with the use of military personnel should be incorporated, including costs of any special incentive pay for particular medical specialties. Another important consideration is the possible need for additional training or sustainment tails to "grow" those particular medical specialties within the current GME program.

National health care reform would be taken into account when conducting future make versus buy analysis for the military. Managed care reforms may encourage increased reliance upon primary care physicians. These doctors would act as "gatekeepers," referring patients to specialists on a more limited basis in an effort to control unnecessary costs. The government would require a balance of 50 percent primary care physicians and 50 percent specialists nationwide to deliver such a program. According to current figures on physician supply, it could take until the year 2040 to reach

that 50-50 balance.[55] The Navy may be able to capitalize on this excess supply of trained civilian sector specialists to help provide more cost effective health care for beneficiaries.

The effects of recent changes in Department of Defense health care management initiatives would also need to be considered in any make versus buy analysis. Financial resources for the DoD medical components have traditionally been based in part on historical workload. This created an incentive structure geared more toward increasing the MTF workload and less on using resources efficiently.

The DoD has adopted a strategy of cost containment using capitation budgeting. Under this concept, health care services are provided to a defined population for an average fixed amount per beneficiary. Since there are no financial incentives for workload inflation, this methodology minimizes inappropriate increases in health care services and reduces the unnecessary provision of more costly care that is not clinically appropriate.[56]

The DoD is also introducing new TRICARE initiatives for non-active duty beneficiaries which mark the transition to a managed care concept of operations. This includes variations of the standard CHAMPUS program which utilize private sector delivery systems such as Health Maintenance Organizations (HMO). These efforts are designed to increase efficiency and lower costs of military health care. Their successful implementation could have serious effects on the number and

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[55]Merritt, J., President, Merritt, Hawkins and Associates, Medical Staff Strategy Report, 1994, pp. 10-11.

[56]Memorandum from Assistant Secretary of Defense for Health Affairs, Subject: Preparing the Military Health Services System for Capitation-based Resource Allocation, 23 July 1993, p. 2.

type of active duty medical personnel required during peacetime.

The bottom line question relating to a make versus buy analysis should be: Are these personnel and the care they were providing under the old system still necessary given current management initiatives? If they answer is yes, is it cost effective to have active duty military providing that care?

For some of the NOBCs which are more administrative in nature, tradeoffs between Navy line community personnel and medical personnel may be considered. Examples of MSC billets of this nature include health care and patient administration, accounting, and medical logistics administration. Cost benefit analysis could center on using personnel already existing in other Navy line communities for these requirements instead of MSC personnel. This type of tradeoff would only be feasible for those line communities which have an excess supply of personnel. Benefits include an overall reduction in required Navy endstrength and benefits associated with the standardization of certain Navy-wide administrative functions. Costs may include any additional training required to assimilate these line personnel into the medical community.

The evacuation policy which helps drive wartime requirements can also be used to make tradeoffs between active duty Navy personnel in the line community and those in the medical community. A longer evacuation policy results in a greater potential for returning casualties to duty without evacuation from the theater, thus reducing the requirement for line forces and increasing the requirement for medical forces. The shorter the policy, the more patients are transferred to CONUS without returning to duty and the more replacements a

theater commander will require to maintain a given fighting strength.[57]

Each option entails certain costs. The longer evacuation policy would require additional logistical support including airlift, sealift, supplies and medical personnel. The shorter policy would necessitate additional replacement forces from the line community and a CONUS medical structure capable of sustaining larger numbers of evacuees. Decisionmakers continually weigh the marginal benefits of a certain evacuation policy against these added costs for a given level of capability.

One may argue that funding for all these resources is supplied by the same source which would negate the cost implications. However, as outlined in Chapter II, the resource allocation process governed by the PPBS is extremely competitive and involves not only fiscal but political considerations. The size of the active duty medical establishment relative to the rest of the military is an issue which is currently receiving a great deal of attention not only in the Navy but throughout the entire DoD.

2. Beyond Model Capabilities

A potential tradeoff exists between the number of active duty general practitioners and active duty medical specialists. The model does not take this type of tradeoff into account primarily because it assumes that this mix is fixed during wartime, on ships, and in POF billets. From a readiness perspective, one may consider the possibility of substituting more general practitioners for specialists, depending on the nature of the assignment. Benefits would include decreased sustainment and training costs and increased ability to function independently in isolated billets. In addition, these types of tradeoffs could increase flexibility

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[57]733 Study (Draft), op. cit., p. 16.

in dealing with the uncertainty associated with demand for wartime medical care. Navy leadership may benefit from examining the feasibility of implementing this form of crosstraining to eliminate the necessity of separate specialist and designator requirements for certain billets.

Particular tradeoffs could be considered for structure-based medical requirements on ships and with the Fleet Marine Force. Recall from Chapter III, each class of ship has a specific mix of physicians, dentists, nurses, corpsmen, Independent Duty Technicians, Physician Assistants, and Dental Technicians. Given the uncertain demand for health care in these environments, particularly during war, the optimal ratio of physicians to each of these other medical specialties should be considered.

Utilizing sufficiently trained Physician Assistants or Independent Duty Technicians in lieu of Medical Corps personnel could decrease costs associated with sustainment, special pay, and rotation base depending on differing sea tour policies. If demand for medical care exceeds expectations, costs of such a tradeoff could include decreased medical capability.

A final tradeoff possibility which is beyond the scope of the model deals with substituting capital equipment for medical personnel. Technological advances in the medical field can decrease personnel requirements as well as improve health care and readiness standards. Costs associated with such a tradeoff would include procurement, maintenance, and training costs as well as costs associated with potential system upgrades.

G. CONCLUSION

This chapter analyzed the THCSRR model at two primary levels. First, overall THCSRR numbers were examined to provide a broad perspective on the relative sizes of Navy

medical endstrength requirements by designator and mission. Secondly, more detailed examination of each component of the model at the NOBC/NEC and subspecialty levels identified the policies, practices, and missions which drive Navy medical manpower. Factors such as evacuation policy, WIA and DNBI rates, tour lengths, and rotation policies have been highlighted in this chapter as elements which drive medical manpower readiness requirements.

Using these model drivers, illustrations of tradeoff possibilities and cost benefit analysis were also introduced. Examples included tradeoffs between rotation policy and retention as well as substituting Navy personnel in the medical community with personnel in the line community. A final possibility this chapter explored involved tradeoffs between using active duty or civilian health care providers in certain billets. This discussion was framed in terms of a make versus buy decision for those programmed endstrength levels in excess of model requirements. Factors such as special incentive pay, national health care reform and DoD management initiatives were highlighted for consideration.

Additional analysis examined those tradeoffs not specifically addressed by the THCSRR model. These included changes in the ratio of specialists to general practitioners, as well as tradeoffs involving physicians and personnel with other medical designators. Finally, costs and benefits of substituting capital equipment and medical personnel were examined. Although not all ideas presented in this chapter are necessarily feasible, possibilities listed represent ways of looking at situations and probing for more efficient methods to accomplish the mission of Navy Medicine.

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. SUMMARY

The purpose of this study has been to examine a model used by Navy Medicine to determine medical manpower readiness requirements. Primary emphasis has been on analyzing the model from a financial management perspective. Specific research goals delineated in Chapter I include the following:

- Identify the primary components, underlying principles, and assumptions behind the THCSRR model
- Using the model, identify the percentages of medical personnel associated with the different missions of Navy Medicine
- Discuss the implications of changing the underlying assumptions of the model
- Illustrate tradeoff possibilities which exist within the context of the model
- Assess areas of the model which could be made more effective
- Based on analysis of this model, draw conclusions regarding the future size of the Department of the Navy medical establishment

Chapter I provided background information to frame the issue of medical readiness. It highlighted the complex relationship between the wartime mission and peacetime benefit mission and the inability to completely separate the two when making decisions on sizing the active duty force. This is primarily due to the fact that personnel required for the wartime mission are also used for the peacetime benefit. The chapter then outlined the events and issues which led to the creation of the THCSRR model. Drastic changes in the political environment and threats faced by the armed forces in addition to increasingly tighter fiscal constraints were listed as primary factors which brought the issue of

"rightsizing" the total force structure to the forefront of the bargaining table.

Chapter I also discussed the congressionally mandated 733 Study which conjectured that only half of the active duty physicians projected to be available in fiscal year 1999 would be required to meet wartime medical demands. The startling results of this study, together with a Center for Naval Analysis study, served as the impetus for the Navy Surgeon General's THCSRR model.

Chapter II examined the DoD management tool known as the Planning, Programming, and Budgeting System. This is the arena in which critical decisions are made regarding the size and type of forces, equipment, and infrastructure which are to be funded in the DoD. A model such as the THCSRR would have to operate successfully within the political and organizational realm of this management system in order to be of any value to the Navy. This chapter focused on the Programming process and the development of a six year financial plan for the Navy called the Program Objective Memorandum (POM). Although the primary emphasis was on this document, planning documents directly impacting the programming process, such as the Defense Planning Guidance, were also introduced. The three phases of programming for Navy medical assets were identified and explained. Primary participants in the medical community, major documents, and specific outcomes of each phase were also delineated.

The final section of this chapter described the unique interaction between Navy Medicine, the Office of the Assistant Secretary of Defense for Health Affairs, and Congress when programming for medical endstrength. Resulting issues such as separate medical POMs, congressional mandates on medical manpower levels, and certification of CHAMPUS cost containment were examined.

Chapter III investigated the primary components and underlying principles behind the THCSRR model. It broke the model down into four components: Wartime, Day-to-Day Operations, MOSR, and Sustainment. The MOSR is created by taking the union of the wartime and day-to-day operational requirements. The THCSRR consists of the MOSR plus the Sustainment component. With these relationships defined, the chapter analyzed each component separately.

The Wartime component was introduced first, including a description of workload-based and structure-based requirements. The chapter described tools such as Illustrative Planning Scenarios and the Medical Planning Module which are used to determine workload requirements by simulating the flow of patients through echelons of medical care during probable combat situations. In addition, it defined factors such as wounded in action and disease non-battle injury rates. Structure-based requirements were defined as those personnel organic to specific units needed during wartime or to sustain wartime units. The role of the Total Force Manpower Management System and documents such as ROC/POE and TO&E were also addressed.

The chapter then discussed the Day-to-Day component, which consists of those medical billets which must be filled for the Navy to perform its operational mission on a daily basis. It defined the Peacetime Operational Forces (POF) overseas, in the Fleet and Fleet Marine Force, and in isolated duty stations and described methods and policies used to calculate a rotation base to support these POF billets.

After providing sample MOSR calculations, Chapter III analyzed the Sustainment component of the model. Sustainment was defined in terms of four elements: loss rates, training billets, mission continuity, and TPP&H. The current structure of the Graduate Medical Education program and its impact on sustainment was explained. This chapter also described

constraints imposed by nationally recognized accreditation requirements for internship and residency programs.

Chapter IV served as the primary analytical portion of this study. It began by providing overall results of the model, including the relative number of billets currently being utilized in each of Navy Medicine's missions. MOSR requirements were analyzed at the subspecialty level in an effort to distinguish between those billets dominated by the day-to-day operational requirement and those driven by the wartime requirement. Subsequent sections of this chapter outlined factors driving each component of the model. These included casualty rates, evacuation policy, as well as Navy rotation and tour length policies. In addition, specific subspecialties required for only one component of the model were listed.

The final section of Chapter IV illustrated how a financial manager might capitalize on such a model to initiate cost benefit analysis and consider tradeoff possibilities. The first tradeoff scenario examined changing current rotation policies. The benefits of a smaller rotation base requirement and costs associated with potential reductions in retention were highlighted. Next, the concept of substituting active duty medical personnel with civilian providers was analyzed in terms of a make versus buy decision. Factors influencing such a decision were discussed, including special incentive pay, national health care reform, and recent DoD management initiatives such as capitation budgeting. Tradeoffs associated with changes in the evacuation policy were also examined. These involved the size of Navy personnel in the line communities relative to those in medical fields and the associated effects on sealift, airlift, and supply requirements.

Additional analysis examined those tradeoffs not specifically addressed by the THCSRR model. These included changes in the ratio of specialists to general practitioners, as well as tradeoffs involving physicians and personnel with other medical designators. The benefits and costs of crosstraining in an environment of uncertain demand were highlighted. Finally, this chapter touched on the concept of substituting medical personnel with capital equipment. Such technological advances might decrease personnel requirements while improving health care and readiness standards. Costs would include procurement, maintenance, system upgrade, and training expenditures.

B. CONCLUSIONS

As shown in the previous chapters, a full exploration of the THCSRR model involves many facets of the Navy health care system. Topics relating to the model have ranged in diversity from current planning and programming mechanisms and medical combat structures to the Navy billet file and congressionally mandated endstength requirements. This section of the chapter draws several conclusions based on the research and analysis conducted on the THCSRR model. First, the model itself will be addressed, followed by conclusions regarding other aspects of the medical force sizing issue.

1. The Model

After analyzing the assumptions and principles behind the THCSRR model, several inferences can be made about its construction. Perhaps one of the most useful aspects of the model in an environment of rightsizing is the manner in which it links medical personnel to particular platforms at sea. Decreases in Navy line community assets resulting in ship decommissioning or the elimination of FMF units can be directly translated into decreases in associated medical endstrength levels. In a broad sense, this model breaks down

Navy medical billets into mission areas, including those which are and are not required for wartime. This information alone is valuable in providing Navy leadership with a starting point for tradeoff analysis decisions. How does one know what is in excess of readiness unless baseline requirements are defined?

In addition to these points, there are also some potential problem areas which deserve attention. When a model is used to address a complicated issue such as medical manpower levels, data input has an enormous impact on results. Much of the information critical to the model may be known only imprecisely and is determined in part by current capabilities and institutional incentives.

An example of this phenomenon lies in the Navy Total Force Manpower Management System (TFMMS), commonly known as the billet file. Because the methodology behind a large portion of the model relies entirely on this system, information contained in it should be as accurate as possible. TFMMS reflects only authorized billets and not actual numbers and types of personnel in inventory. Recall that Navy Medicine keeps a separate database called the body file to track actual medical personnel. If the THCSRR model is to be used to make decisions regarding the actual number and skills mix of Navy medical personnel, there may be a disconnect.

Methods used to determine OCONUS and ICONUS MTF billets in TFMMS may require some additional work as well. Recall from Chapter III that billets not required for war or organic to specific platforms or units are determined by Efficiency Review (ER) procedures. All Navy communities were recently tasked with conducting ERs to establish a baseline of required active duty personnel. The line community used a team of third party investigators to assess requirements at each activity and ensure consistency. The medical community, on the other hand, tasked each activity to conduct its own ER. Although both alternatives are acceptable methods of reaching

the same goal, standardization and consistency in this arena could enhance the credibility of TFMMS.

One final assessment regarding the model itself centers around the 733 Study. The wartime portion of the THCSRR model is based almost entirely on this congressionally mandated examination of medical requirements. Although the actual methodology behind the wartime portion of this study is sound, the degree to which the model relies on it may not be beneficial for users in the long term. The 733 is a static study designed to provide a snapshot in time of the Military Health Services System, whereas the THCSRR is designed to be a dynamic model capable of providing current information on medical readiness requirements. At this early stage, the two are still compatible; however, there will soon come a time when another study will be required.

2. Model Implementation

A discussion of conclusions naturally leads to the issue of incorporating the THCSRR model within the auspices of the current PPBS. Methods used in developing the wartime portion of the 733 Study closely resemble those which are theoretically part of the Planning phase. The Defense Planning Guidance, Medical Planning Module, wounded in action and DNBI rates, and evacuation policy are certainly not new concepts. The question which may arise is, "Why did Congress need to mandate an examination of DoD medical requirements for wartime?". Given the results of the study, perhaps a better question would be, "Is the current PPBS capable of providing the information and fostering the kinds of decisions which are necessary in the military medical community?"

The THCSRR model takes many elements of medical manpower analysis into account, including accession, training, and rotation policies. However, in the shared power world of the PPBS, no one agency or policy-making body has control over all these factors. As stated in Chapter II, the medical community

must contend with congressional interest in health care as well as the division of programming responsibilities resulting from the creation of the Defense Health Program. Tradeoffs which are deemed cost-effective to the Navy as a whole may or may not be implemented in an arena where responsibility and control over resources is divided among competing stakeholders.

C. RECOMMENDATIONS

The final section of this study offers recommendations relating to the THCSRR model and medical manpower issues involved in its use. Some would require minor adjustments to current policy while others would entail DoD-wide restructuring efforts. In either case, ideas presented here are designed to highlight specific areas and offer alternative measures of ensuring the continued provision of medical readiness and cost-effective health care. An additional portion of this section will list areas recommended for further research.

1. The THCSRR Model and Related Medical Issues

First and foremost, a single definition of medical readiness should be agreed upon in the DoD. Any joint efforts or comparisons between services will be mute without consensus on this point. Readiness in general has been defined as the ability of forces, units, weapons systems, or equipment to deliver the outputs for which they were designed, including the ability to deploy and employ without unacceptable delay.[58] In structuring future discussions on medical readiness, this element of deployability may want to be considered. In addition, personnel training should be reflected in a readiness definition. This would not only

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[58]Department of Defense, Joint Chiefs of Staff Dictionary of Military Terms, 1990, p. 252.

entail displaying adequate skills in a particular medical field but would also include the ability to function in an operational environment onboard ship, with the Fleet Marine Force, and in other areas of the combat medical structure. To maintain some consistency with line communities, the peacetime benefit mission should not be considered in a DoD definition of medical readiness.

All active duty medical personnel in excess of readiness requirements should be subject to some type of make versus buy analysis in order to ensure cost-effective health care is being provided. The effects of national health care reform on the supply and demand of civilian specialists should be considered. Cost implications of capitation budgeting and TRICARE initiatives should also be taken into account.

Several steps can be taken in order to better integrate financial decisions regarding medical manpower. First, congressional floors on endstrength levels and the certification requirement for CHAMPUS cost containment both limit tradeoff possibilities by specialty. Consideration should therefore be given to eliminating the constraints they impose on the PPBS process. Secondly, thought should be given to altering the composition of overall Navy endstrength numbers to exclude medical personnel. Although overall Navy readiness requirements are derived from the Illustrative Planning Scenarios of the DPG, the THCSRR model has highlighted the fact that medical personnel readiness requirements are driven by unique factors which may need extra consideration. The inescapable tendency to "share the pain" of personnel cuts regardless of effects on medical readiness could thus be avoided. Given the current environment of downsizing, full implementation of this recommendation may not necessarily be practical or politically realistic.

Perhaps one of the most complex relationships to understand is that which exists between the services and the

Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)). This is a relatively new relationship which is still in the process of developing, especially in terms of the PPBS and resource allocation decisions. Breaking up resources for the medical community among various players in the PPBS reflects the need to share power but may hinder implementation of models such as the THCSRR. Two POMs may not produce better or more effective financial plans than one POM. A single POM would limit compartmentalization and enable better tradeoff analysis and higher levels of readiness in the long term. Ensuring that all services operate under the same medical guidelines has its obvious benefits; however, these may be undermined by the added complexity of a new organization with only partial control of resources.

A general recommendation would be to locate authority for medical assets with either the services or ASD(HA) instead of a combination of both. Recent studies support the consolidation of all military medical resources, including medical personnel. Advantages which have been cited include an increased ability to make tradeoffs among the three military departments and foster more cross-sharing of resources. In addition, a consolidated management authority could decrease the risk of budgetary pressures on the DoD jeopardizing medical readiness.[59]

Final recommendations center around future adaptations of the THCSRR and other readiness models. Rather than linking a model to a static report such as the 733 Study, it may be more advisable to rely on current DoD planning mechanisms as conceptual foundations. Since military models will be implemented through the PPBS, linking them to planning and

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[59]Congressional Budget Office, Easing the Burden: Restructuring and Consolidating Defense Support Activities, July 1994, p. 23.

programming forums and methodologies typically used in this system enhances the longevity of the model. In addition to these adaptations, future models may want to consider incorporating tradeoff possibilities listed in Chapter IV. These include but are not limited to substituting technology for medical personnel and making tradeoffs between general practitioners and medical specialists.

2. Areas for Further Research

The following list provides general topics relating to this study which may require further analysis:

- Using similar methodology, create a manpower readiness requirements model for other communities in the Department of the Navy
- Apply this type of model and tradeoff analysis to the medical communities of other services
- Analyze the effects of capitation budgeting and new TRICARE initiatives on costs associated with providing health care and use the results to illustrate make versus buy analysis for military health care providers
- Study the effects of an excess supply of civilian medical specialists on the Navy Graduate Medical Education program
- Develop methods of measuring medical readiness which take into account the degree that skills requirements for wartime are fulfilled by medical personnel
- Adapt the existing TFMMS database to distinguish between those billets which are required for medical readiness and those which are not
- Develop alternative medical readiness models which incorporate tradeoffs between general practitioners and medical specialists as well as the possibility of substituting capital equipment and technology for medical personnel
- Investigate methods for addressing the efficient use of rotation base personnel in CONUS Medical and Dental Treatment Facilities

APPENDIX A. MOSR DATABASE

NOBC	PSUB	POF	*NROT	RB X	RB	DTD	WAR	MOSR
				Dental Technician				
0000	0000	486	396	1.5	135	621	1640	1640
8703	0000	120	0	1.5	180	300	280	300
8705	0000	0	0	0	0	0	5	5
8707	0000	397	316	1.51	122	519	454	519
8732	0000	26	5	1.52	32	58	47	58
8752	0000	57	38	1.47	28	85	152	152
8753	0000	49	0	1.51	74	123	154	154
8765	0000	0	0	0	0	0	2	2
8783	0000	5	0	1.8	8	13	0	13
				Hospital Corpsman				
0000	0000	2073	1568	1.28	646	2719	9778	9778
8401	0000	80	44	1.27	46	126	98	126
8402	0000	118	0	1.28	151	269	463	463
8403	0000	15	0	1.27	19	34	88	88
8404	0000	3263	2300	1.28	1233	4496	5008	5008
8406	0000	343	52	1.28	372	715	883	883
8407	0000	37	10	1.3	35	72	119	119
8408	0000	6	4	1.5	3	9	32	32
8409	0000	26	4	1.27	28	54	31	54
8416	0000	4	0	1.25	5	9	21	21
8424	0000	67	0	1.28	86	153	1	153
8425	0000	560	0	1.28	717	1277	1536	1536
8427	0000	50	12	1.29	49	99	0	99
8432	0000	334	30	1.28	389	723	513	723
8445	0000	12	10	1.5	3	15	39	39
8446	0000	7	4	1.33	4	11	23	23
8451	0000	104	67	1.27	47	151	278	278
8452	0000	149	38	1.3	142	291	501	501
8454	0000	5	2	1.33	4	9	7	9
8463	0000	32	7	1.28	32	64	69	69
8466	0000	31	16	1.27	19	50	108	108
8467	0000	6	0	1.33	8	14	0	14
8472	0000	3	1	1.5	3	6	17	17
8478	0000	101	0	1.28	129	230	266	266
8479	0000	20	11	1.33	12	32	30	32
8482	0000	238	85	1.28	196	434	483	483

NOBC	PSUB	POF	*NROT	RB X	RB	DTD	WAR	MOSR
8483	0000	329	233	1.28	123	452	1332	1332
8485	0000	32	19	1.3	17	49	131	131
8486	0000	11	7	1.25	5	16	25	25
8489	0000	35	27	1.25	10	45	156	156
8491	0000	89	0	1.28	114	203	0	203
8492	0000	97	32	1.28	83	180	264	264
8493	0000	50	5	1.29	58	108	201	201
8494	0000	32	0	1.28	41	73	1	73
8495	0000	9	8	1	1	10	18	18
8496	0000	8	0	1.25	10	18	11	18
8501	0000	150	103	1.28	60	210	498	498
8503	0000	5	0	1.2	6	11	15	15
8505	0000	10	0	1.3	13	23	55	55
8506	0000	260	60	1.28	256	516	697	697
8541	0000	25	15	1.3	13	38	135	135
9580	0000	0	0	0	0	0	29	29
				Medical Corps				
0030	1800	1	0	2	2	3	0	3
0031	0000	1	0	2	2	3	0	3
00XX	0000	86	0	1.47	126	212	252	252
0101	1612	25	0	1.48	37	62	82	82
0101	1641	7	0	1.43	10	17	0	17
0101	1642	1	0	2	2	3	1	3
0101	1647	1	0	2	2	3	1	3
0102	1600	151	0	0	0	151	238	238
0102	1601	48	0	0	0	48	59	59
0102	1602	3	0	0	0	3	0	3
0105	1611	3	0	1.33	4	7	3	7
0105	1614	28	0	1.46	41	69	27	69
0107	1605	30	0	0	0	30	32	32
0108	1600	5	0	1.4	7	12	0	12
0108	1601	2	0	1.5	3	5	0	5
0108	1602	1	0	2	2	3	0	3
0108	1610	114	0	1.47	167	281	199	281
0109	1616	13	0	1.46	19	32	59	59
0110	1602	157	0	0	0	157	244	244
0110	1605	1	0	0	0	1	0	1
0111	1618	5	0	1.4	7	12	19	19
0115	1622	18	0	1.44	26	44	45	45

0NOBC	PSUB	POF	*NROT	RB_X	RB	DTD	WAR	MOSR
0115	1623	2	0	1.5	3	5	2	5
0118	1540	24	0	1.46	35	59	158	158
0121	1620	2	0	1.5	3	5	9	9
0131	1670	19	0	1.47	28	47	45	47
0150	1680	8	0	1.5	12	20	48	48
0150	1685	1	0	2	2	3	3	3
0160	1601	2	0	1.5	3	5	0	5
0160	1628	9	0	1.44	13	22	22	22
0163	1624	16	0	1.44	23	39	27	39
0166	1626	2	0	1.5	3	5	8	8
0169	1630	0	0	0	0	0	1	1
0214	1500	56	0	1.46	82	138	230	230
0224	1515	0	0	0	0	0	21	21
0229	1510	35	0	1.46	51	86	46	86
0234	1524	5	0	1.4	7	12	27	27
0244	1516	22	0	1.45	32	54	135	135
0249	1522	6	0	1.5	9	15	27	27
0254	1520	0	0	0	0	0	2	2
0264	1507	0	0	0	0	0	13	13
0269	1508	5	0	1.4	7	12	20	20
				Dental Corps				
0030	1800	1	0	2	2	3	12	12
00XX	0000	14	0	1.43	20	34	18	34
0335	1700	299	0	1.44	431	730	507	703
0335	1725	31	0	1.45	45	76	0	76
0340	1740	4	0	1.5	6	10	4	10
0540	1745	1	0	2	2	3	0	3
0510	1710	18	0	1.44	26	44	23	44
0525	1700	9	0	1.44	13	22	0	22
0525	1725	47	0	1.45	68	115	75	115
0535	1735	5	0	1.4	7	12	5	12
0545	1745	1	0	2	2	3	2	3
0550	1700	3	0	1.5	4	7	0	7
0550	1750	26	0	1.46	38	64	58	64
0550	1760	1	0	2	2	3	0	3
0560	1760	18	0	1.44	26	44	18	44
0569	1700	6	0	1.5	9	15	0	15
0569	1769	27	0	1.44	39	66	33	66
0575	1775	1	0	2	2	3	1	3

NOBC	PSUB	POF	*NROT	RB_X	RB	DTD	WAR	MOSR
0579	1795	6	0	1.5	9	15	6	15
0580	1780	0	0	0	0	0	2	2
				Medical Service Corps				
0030	1800	1	0	1	1	2	0	2
0031	1805	30	0	1.3	39	69	43	69
00XX	1800	88	0	1.3	114	202	511	511
00XX	1802	1	0	1	1	2	0	2
00XX	1805	1	0	1	1	2	0	2
0113	1893	61	0	1.3	79	140	190	190
0800	1800	55	0	1.31	72	127	264	264
0800	1801	3	0	1.33	4	7	0	7
0800	1803	1	0	1	1	2	1	2
0801	1800	1	0	1	1	2	0	2
0808	1801	14	0	1.29	18	32	42	42
0814	1877	7	0	1.29	9	16	10	16
0820	1800	9	0	1.33	12	21	17	21
0822	1804	0	0	0	0	0	1	1
0840	1810	1	0	1	1	2	27	27
0841	1815	14	0	1.29	18	32	38	38
0841	1819	1	0	1	1	2	0	2
0841	1821	1	0	1	1	2	0	2
0845	1825	12	0	1.33	16	28	32	32
0847	1828	1	0	1	1	2	29	29
0848	1835	1	0	1	1	2	14	14
0849	1836	20	0	1.3	26	46	2	46
0851	1840	20	0	1.3	26	46	52	52
0851	1841	4	0	1.25	5	9	4	9
0852	1844	5	0	1.4	7	12	2	12
0854	1845	0	0	0	0	0	13	13
0860	1850	10	0	1.3	13	23	32	32
0861	1860	25	0	1.32	33	58	73	73
0862	1861	45	0	1.31	59	104	78	104
0866	1865	17	0	1.29	22	39	61	61
0868	1870	16	0	1.31	21	37	23	37
0871	1862	8	0	1.25	10	18	8	18
0873	1873	13	0	1.3	17	30	29	30
0874	1874	5	0	1.4	7	12	12	12
0876	1876	2	0	1.5	3	5	12	12
0880	1880	21	0	1.29	27	48	33	48

NOBC	PSUB	POF	*NROT	RB X	RB	DTD	WAR	MOSR
0887	1887	22	0	1.31	29	51	45	51
0892	1892	1	0	1	1	2	12	12
1005	0031	3	0	1.33	4	7	19	19
1005	1802	1	0	1	1	2	0	2
1015	1800	4	0	1.25	5	9	4	9
0150	0031	21	0	1.29	27	48	12	48
1918	0032	3	0	1.3	4	7	1	7
1918	1800	2	0	1.5	3	5	1	5
1918	1802	22	0	1.31	29	51	18	51
2615	1800	19	0	1.32	25	44	9	44
3965	0033	4	0	1.25	5	9	11	11
9705	0095	1	0	1	1	2	1	2
9705	1803	6	0	1.33	8	14	4	14
				Nurse Corps				
0005	1900	3	0	1.33	4	7	35	35
0005	1901	12	0	1.25	15	27	10	27
0005	1910	1	0	1	1	2	0	2
0005	1940	1	0	1	1	2	0	2
0020	1900	2	0	1.5	3	5	165	165
0020	1901	2	0	1.5	3	5	0	5
0020	1910	8	0	1.25	10	18	7	18
0020	1920	2	0	1.5	3	5	2	5
0020	1940	2	0	1.5	3	5	3	5
0020	1950	1	0	1	1	2	1	2
0028	1900	15	0	1.27	19	34	11	34
0028	1910	37	0	1.24	46	83	270	270
0028	1920	20	0	1.25	25	45	14	45
0028	1922	2	0	1.5	3	5	2	5
0028	1923	3	0	1.33	4	7	2	7
0028	1930	4	0	1.25	5	9	4	9
0028	1940	1	0	1	1	2	1	2
0028	1945	1	0	1	1	2	0	2
0028	1950	1	0	1	1	2	1	2
0028	1960	2	0	1.5	3	5	2	5
0049	1907	9	0	1.22	11	20	18	20
0904	1960	52	0	1.25	65	117	396	396
0904	1964	1	0	1	1	2	1	2
0925	1910	1	0	1	1	2	1	2
0932	1950	43	0	1.26	54	97	227	227

NOBC	PSUB	POF	*NROT	RB X	RB	DTD	WAR	MOSR
0935	1900	48	0	1.25	60	108	36	108
0935	1910	2	0	1.5	3	5	1	5
0935	1920	1	0	1	1	2	1	2
0935	1922	2	0	1.33	3	5	1	5
0935	1940	53	0	1.25	66	119	218	218
0935	1945	26	0	1.27	33	59	23	59
0944	1900	120	0	1.25	150	270	629	629
0944	1910	10	0	1.3	13	23	5	23
0944	1920	14	0	1.29	18	32	14	32
0944	1922	3	0	1.33	4	7	2	7
0944	1923	1	0	1	1	2	0	2
0944	1960	1	0	1	1	2	1	2
0952	1972	46	0	1.26	58	104	193	193
0963	1974	5	0	1.2	6	11	5	11
0963	1976	18	0	1.28	23	41	68	68
0963	1980	4	0	1.25	5	9	3	9
0963	1981	6	0	1.33	8	14	4	14
3215	1903	11	0	1.27	14	25	8	25

* NROT are those enlisted billets designated as E-4 and below which do not require a rotation base according to the THCSRR model.

APPENDIX B. LIST OF ACRONYMS

ACGME	American Council for Graduate Medical Education
AFHPSP	Armed Forces Health Professions Scholarship Program
BAM	Baseline Assessment Memorandum
BUMED	Bureau of Medicine and Surgery
BUPERS	Bureau of Naval Personnel
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CINC	Commander-in-Chief
CINCPACFLT	Commander-in-Chief, Pacific Fleet
CMC	Commandant of the Marine Corps
CNA	Center for Naval Analysis
CNO	Chief of Naval Operations
CONUS	Continental United States
CRTS	Casualty Receiving and Treatment Ship
DC	Dental Corps
DESRON	Destroyer Squadron
DHP	Defense Health Program
DMPA	Defense Medical Program Activity
DNBI	disease non-battle injury
DNCPPG	Department of the Navy Consolidated Planning and Programming Guidance
DoD	Department of Defense
DPG	Defense Planning Guidance
DPRB	Defense Planning and Resources Board
DPSB	Defense Programming Strategy Board
DT	Dental Technician
DTD	Day-to-Day component
ER	Efficiency Review
ESC	Executive Steering Committee
EXCOM	Executive Committee

FMF	Fleet Marine Force
FMFM	Fleet Marine Force Manual
FTOS	Full Time Out Service
FYDP	Future Years Defense Plan
GME	graduate medical education
GMO	General Medical Officer
HCA	Health Care Administration
HCS	Health Care Science
HM	Hospital Corpsman
HMO	Health Maintenance Organization
IBR	Investment Balance Review
ICONUS	Isolated Continental United States
IPL	Integrated Priority List
IPS	Illustrative Planning Scenarios
JCS	Joint Chiefs of Staff
JMA	Joint Mission Area
JOPES	Joint Operation Planning and Execution System
MC	Medical Corps
MCE	mission continuity element
MEPS	Military Entrance Processing Station
MHSS	Medical Health Services System
MILCON	Military Construction appropriation
MIPL	Medical Integrated Priority List
MOSR	Medical Operational Support Requirement
MPG	Medical Program Guidance
MPM	Medical Planning Module
MPMC	Military Personnel, Marine Corps appropriation
MRC	major regional conflict
MSC	Medical Service Corps
MTF	Medical Treatment Facility
NADDS	Navy Active Duty Deferred Scholarship
NAVCOMPT	Office of the Navy Comptroller

NAVSUP	Naval Supply Systems Command
NC	Nurse Corps
NCMP	Navy Capabilities Mobilization Plan
NEC	Navy Enlisted Classification
NMSD	National Military Strategy Document
NOBC	Naval Officer Billet Classification
NROT	no rotation base required
NSS	National Security Strategy
OASD(HA)	Office of the Assistant Secretary of Defense for Health Affairs
OCONUS	Outside the Continental United States
OSD	Office of the Secretary of Defense
OSD(PA&E)	Office of the Secretary Of Defense for Program Analysis and Evaluation
PDM	Program Decision Memorandum
PDRC	Program Development Review Committee
PMATF	POM Medical Assessment Task Force
POA&M	Plan of Action and Milestones
POF	Peacetime Operational Forces
POM	Program Objective Memorandum
PPBS	Planning, Programming, and Budgeting System
PSUB	Primary Subspecialty
R^3B	Resources and Requirements Review Board
RB	rotation base
RBX	rotation base multiplier
RD	Reserve Delay
RI	Reserve Immediate
ROC/POE	Required Operational Capability and Projected Operational Environment
RRC	Residency Review Committee
SA	Support Area
SCP	Sponsor Change Proposal

SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SPP	Sponsor Program Proposal
SPPD	Sponsor Program Proposal Document
SRB	Selective Reenlistment Bonus
T-AH	Hospital Ship
TAC	Type Assignment Code
TFMMS	Total Force Manpower Manangement System
THCSRR	Total Health Care Support Readiness Requirement
TO&E	Table of Organization and Equipment
TOA	Total Obligational Authority
TPP&H	Transients, Patients, Prisoners and Holding
UIC	Unit Identification Code
UMO	Undersea Medical Officer
USUHS	Uniformed Services University of the Health Services
WAR	Wartime component
WIA	wounded in action

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